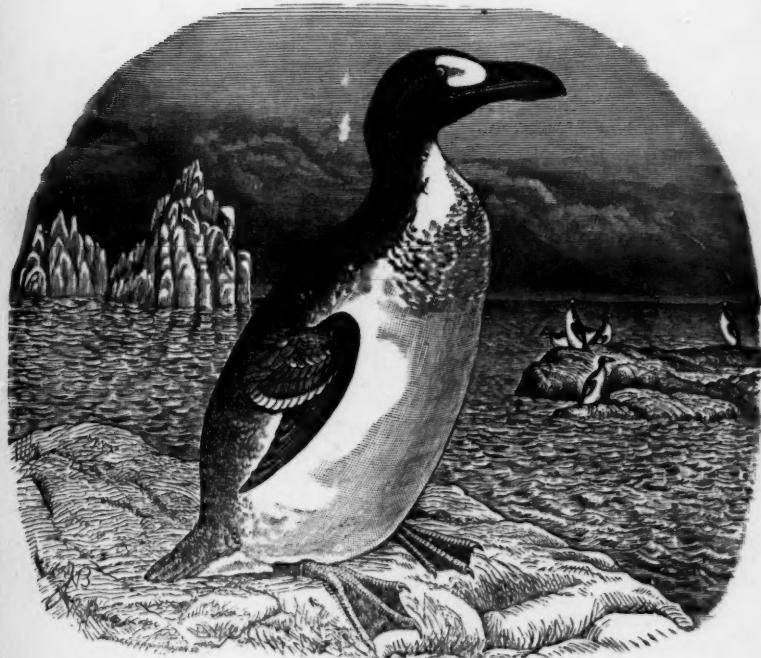


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EDITOR
J. A. ALLEN
ASSOCIATE EDITOR
FRANK M. CHAPMAN



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RINGER, FREDERIC, Nagasaki.....	1888
ROTHSCHILD, Hon. WALTER L., Zoölogical Museum, Tring, England.....	1898
SCHALOW, HERMAN, Traunsteinerstrasse 2 ¹ , Berlin, W. 30.....	1884
SCLATER, WILLIAM LUTLEY, Colorado Springs, Colo.....	1906
SHELLEY, Capt. G. E., 39 Edgerton Gardens, South Kensington, London, S. W.....	1884
SUSHKIN, Dr. PETER, Imperial University, Moscow.....	1903
THEEL, Dr. HJALMAR, University of Upsala, Upsala, Sweden.....	1884
TSCHUSI ZU SCHMIDHOFFEN, VICTOR RITTER von, Villa Tännenhof, bei Hallein, Salzburg, Austria.....	1884
WATERHOUSE, F. H., 3 Hanover Square, London, W.....	1889
WINGE, Dr. HERLUF, University Zoölogical Museum, Copenhagen.....	1903
WORCESTER, Prof. DEAN C., Manila, P. I.....	1903
ZELEDON, Don José C., San José, Costa Rica.....	1884

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BROOKS, Rev. EARLE AMOS, Weston, W. Va.	1892
BROWN, ARTHUR L., 217 Spring St., West Roxbury, Mass.	1908
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BROWNSON, W. H., Superintendent of Schools, Portland, Me.	1903
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BURKE, WM. BARDWELL, 130 Spring St., Rochester, N. Y.	1901
BURNETT, WILLIAM L., Box 483, Loveland, Colo.	1895
BURR, FREEMAN F., 39 Thompson Ave., East Haven, Conn.	1907
BURT, H. P., New Bedford, Mass.	1908
BURTCH, VERDI, Branchport, N. Y.	1903
BUTLER, Miss CHARLOTTE W., 75 Cabot St., Beverly, Mass.	1904
BUTTRICK, PHILIP L., 296 Columbus Ave., New Haven, Conn.	1907
BUXBAUM, Mrs. CLARA E., St. Joseph, Mich.	1895

CABOT, LOUIS, Brookline, Mass.	1904
CADY, Mrs. JOHN H., 127 Power St., Providence, R. I.	1905
CALLENDER, JAMES PHILLIPS, 603 Springfield Ave., Summit, N. J.	1903
CAMERON, E. S., Fallon, Montana.	1903
CAMPBELL, Mrs. ROBERT, 280 Wildwood Ave., Jackson, Mich.	1905
CAREY, HENRY R., Milton Academy, Milton, Mass.	1908
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CARRIKER, M. A., Jr., Carnegie Museum, Pittsburgh, Pa.	1907
CARTER, JOHN D., Lansdowne, Pa.	1907
CASE, Rev. BERT F., Richmond Beach, Wash.	1903
CASE, CLIFFORD M., 7 Holecomb St., Hartford, Conn.	1892
CASH, HARRY A., 54 Spring St., Pawtucket, R. I.	1898
CASKEY, ROBERT C., 58 Milk St., Morristown, N. J.	1908
CATLIN, JAMES P., Ottawa, Ill.	1905
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CHAMBERS, W. LEE, Santa Monica, Cal.	1907
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CHASE, SIDNEY, Nantucket, Mass.	1904
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FULLER, T. OTIS, Needham, Mass.	1904
FUTCHER, Dr. THOMAS B., 3 W. Franklin St., Baltimore, Md.	1906
GAINES, EDWARD F., Ritzville, Wash.	1908
GANO, Miss LAURA, Earlham Place, Richmond, Ind.	1903
GARDINER, CHARLES BARNES, 5 Minard Place, Norwalk, Ohio	1903
GARRICK, JAMES P., Jr., Weston, S. C.	1906
GATES, FRANK C., 2725 N. Lincoln St., Chicago, Ill.	1908
GATH, JOHN, Box 236, Torrington, Conn.	1901
GIBSON, LANGDON, 18 Washington Ave., Schenectady, N. Y.	1904
GIFFORD, EDWARD WINSLOW, Cal. Acad. Sci., San Francisco, Cal.	1904
GILMAN, M. FRENCH, Sacaton, Arizona	1907
GOODALE, Dr. JOSEPH LINCOLN, 258 Beacon St., Boston, Mass.	1885
GOODRICH, JULIET T., 10 Astor St., Chicago, Ill.	1904
GOODWIN, Miss AMELIA M., 10 Follen St., Cambridge, Mass.	1904
GOSS, Mrs. ALETTA W., 5475 Ridgewood Court, Chicago, Ill.	1902
GOULD, JOSEPH E., 5 Clifton St., Norfolk, Va.	1889
GRANGER, Miss HELEN, Pierce Hall, Cambridge, Mass.	1904
GRANGER, WALTER W., Amer. Mus. Nat. Hist., New York City	1891
GRAVES, Mrs. CHARLES B., 66 Franklin St., New London, Conn.	1905
GREENOUGH, Mrs. AMELIA P., 377 Beacon St., Boston, Mass.	1904
GREENOUGH, HENRY VOSE, 23 Monmouth Court, Brookline, Mass.	1901
GREGORY, STEPHEN S., Jr., 100 Washington St., Chicago, Ill.	1906
GRISCOM, LUDLOW, 21 Washington Sq., N., New York City	1908
GROSS, ALFRED O., Nat. Hist. Bldg., Univ. of Illinois, Urbana, Ill.	1907
HADLEY, ALDEN H., Monrovia, Indiana	1906
HALES, HENRY, Ridgewood, N. J.	1890
HALL, H. PORTER, Leominster, Mass.	1904
HANKINSON, THOMAS LEROY, Charleston, Ill.	1897

HANN, HERBERT H., 700 Springfield Ave., Summit, N. J.	1903
HARDON, Mrs. HENRY W., 315 West 71st St., New York City	1905
HARDY, JOHN H., Jr., 24 Irving St., Arlington, Mass.	1905
HARPER, FRANCIS, 557 First Ave., College Point, N. Y.	1907
HARPER, SAMUEL A., 409 N. 3rd Ave., Maywood, Ill.	1908
HARRIMAN, Miss MARY, 1 E. 55th St., New York City	1899
HART, CHARLES G., Box 47, East Berlin, Conn.	1908
HARVEY, Miss RUTH SAWYER, Bond Hill, Cincinnati, Ohio	1902
HASKELL, Miss HELEN P., 1207 Henry St., Alton, Ill.	1905
HATHAWAY, HARRY S., Box 498, Providence, R. I.	1897
HAVEMEYER, H. O., Jr., 113 Wall St., New York City	1893
HAYES, Miss PAULINE J., 212 S. Sycamore St., Centralia, Ill.	1907
HAZARD, Hon. R. G., Peace Dale, R. I.	1885
HEAD, Miss ANNA, 2538 Channing Way, Berkeley, Cal.	1903
HEIL, CHARLES E., Needham, Mass.	1908
HEINRICH, ARTHUR O., Box 18, Baldwin, N. Y.	1908
HELME, ARTHUR H., Miller Place, N. Y.	1888
HENDERSON, Judge JUNIUS, Boulder, Colo.	1903
HENDRICKSON, W. F., 276 Hillside Ave., Jamaica, N. Y.	1885
HENNING, CARL FRITZ, 922 8th St., Boone, Ia.	1906
HENNINGER, Rev. WALTHER F., New Bremen, Ohio	1898
HERRICK, HAROLD, 25 Liberty St., New York City	1905
HIGBEE, HARRY G., 13 Austin St., Hyde Park, Mass.	1900
HILL, A. C., 400 Pleasant St., Belmont, Mass.	1905
HILL, JAMES HAYNES, Box 485, New London, Conn.	1897
HILL, Mrs. THOMAS R., 4629 Baltimore Ave., Philadelphia, Pa.	1903
HINE, Prof. JAMES STEWART, Ohio State Univ., Columbus, Ohio	1899
HINE, Mrs. JANE L., Sedan, Ind.	1890
HITCHCOCK, FRANK H., Metropolitan Club, Washington, D. C.	1891
HIX, GEORGE E., 630 Columbus Ave., New York City	1904
HODGE, Prof. CLIFTON FREMONT, Clark Univ., Worcester, Mass.	1899
HOLBROOK, Miss ISABEL B., R. I. Normal School, Providence, R. I.	1905
HOLDEN, Mrs. EMELINE R., 13 E. 79th St., New York City	1902
HOLDEN, Mrs. EDWIN B., 323 Riverside Drive, New York City	1903
HOLLAND, Dr. WILLIAM J., 5th and Bellefield Aves., Pittsburgh, Pa.	1899
HOLLISTER, NED, Biological Survey, Washington, D. C.	1894
HOLLISTER, WARREN D., care of Continental Oil Co., Denver, Colo.	1901
HOLMAN, RALPH H., 33 Chestnut St., Stoneham, Mass.	1907
HOLT, ERNEST G., Y. M. C. A., Montgomery, Ala.	1907
HOLT, Miss NANCY W. C., 136 Chauncey St., Cambridge, Mass.	1908
HONYWILL, ALBERT W., Jr., 135 Vanderbilt Scientific, Yale University, New Haven, Conn.	1907
HORSFALL, BRUCE, 67 Wiggins St., Princeton, N. J.	1905
HOWELL, BENJAMIN F., Jr., R. F. D. No. 1, Boonton, N. J.	1907
HOWE, CARLTON D., Essex Junction, Vt.	1901
HOWE, Miss LOUISE, 53 Linden St., Brookline, Mass.	1908

HOWE, REGINALD HEBER, Jr., Middlesex School, Concord, Mass.	1895
HOWLAND, RANDOLPH H., 164 Wildwood Ave., Upper Montclair, N. J.	1903
HOYT, WILLIAM H., Box 425, Stamford, Conn.	1907
HUBBARD, LUCIUS, 116 N. Main St., South Bend, Ind.	1908
HUBBARD, DR. LUCIUS L., Houghton, Mich.	1907
HUBBARD, MRS. SARA A., 177 Woodruff Ave., Brooklyn, N. Y.	1891
HUNN, JOHN T. SHARPLESS, 1218 Prospect Ave., Plainfield, N. J.	1895
HUNT, CHRESWELL J., 225 N. 53rd St., West Philadelphia, Pa.	1902
HUNTER, W. D., Box 208, Dallas, Texas.	1899
INGALLS, CHARLES E., East Templeton, Mass.	1885
INGERSOLL, ALBERT M., 836 5th St., San Diego, Cal.	1885
IRVING, JOHN, 52 Broadway, care of B. N. Cardoza, N. Y. City.	1894
ISHAM, C. B., 30 E. 63d St., New York City.	1891
IVES, ROY C., R. R. No. 2, Clare, Iowa.	1908
JACKSON, THOMAS H., 304 N. Franklin St., West Chester, Pa.	1888
JAGER, H. J., 222 State Ave., Owatonna, Minn.	1904
JENNEY, CHARLES F., 35 Congress St., Boston, Mass.	1905
JOHNSON, MRS. GRACE PETTIS, Museum of Nat. Hist., Springfield, Mass.	1908
JOHNSON, FRANK EDGAR, 16 Amackassin Terrace, Yonkers, N. Y.	1888
JOHNSON, JAMES HOWARD, Bradford, N. H.	1894
JOHNSON, WALTER ADAMS, 18 Gramercy Park, New York City.	1898
JOHNSON, WILLIAM S., Boonville, N. Y.	1893
JORDAN, A. H. B., Everett, Wash.	1888
JUDD, ELMER T., Cando, N. D.	1895
JUDD, ROBERT S., Bethel, Conn.	1906
KEAYS, JAMES EDWARD, 328 St. George St., London, Ontario.	1899
KEIM, THOMAS DANIEL, 405 Radcliffe St., Bristol, Pa.	1902
KELLOGG, CHARLES D., North Newry, Maine.	1908
KELLOGG, Prof. VERNON L., Stanford University, Cal.	1888
KENDALL, Miss BLANCHE, 20 Dudley St., Brookline, Mass.	1904
KENNARD, FREDERIC HEDGE, Dudley St., Newton Centre, Mass.	1892
KENT, EDWIN C., 90 West St., New York City.	1907
KERMODE, FRANCIS, Curator Provincial Museum, Victoria, B. C.	1904
KEYES, Prof. CHAS. R., Mt. Vernon, Ia.	1904
*KIDDER, NATHANIEL T., Milton, Mass.	1906
KILGORE, WILLIAM, Jr., Hopkins, Minn.	1906
KING, LE ROY, 20 E. 84th St., New York City.	1901
KIRKHAM, MTS. JAMES W., 275 Maple St., Springfield, Mass.	1904
KIRKWOOD, FRANK C., Long Green, Md.	1892
KNAEBEL, ERNEST, 1040 Josephine St., Denver, Colo.	1906
KNAPP, MRS. HENRY A., 301 Quincy Ave., Scranton, Pa.	1957
KNOLHOFF, FERDINAND WILLIAM, 28 Winans St., East Orange, N. J.	1890
KOPMAN, HENRY HAZLITT, 410 Pine St., New Orleans, La.	1899
KUSER, ANTHONY R., Bernardsville, N. J.	1908
KUTCHIN, DR. VICTOR, Green Lake, Wis.	1905
LACEY, HOWARD GEORGE, Kerrville, Texas.	1899

LANG, HERBERT, Amer. Mus. Nat. Hist., New York City	1907
LANGMAID, Miss BERTHA, 2 Gordon Terrace, Brookline, Mass.	1908
LANTZ, Prof. DAVID ERNEST, Dept. of Agriculture, Washington, D. C.	1885
LARRABEE, AUSTIN P., 840 Kipling St., Palo Alto, Cal.	1902
LATIMER, Miss CAROLINE P., 19 Pierrepont St., Brooklyn, N. Y.	1898
LAURENT, PHILIP, 31 E. Mt. Airy Ave., Mt. Airy, Philadelphia, Pa.	1902
LAW, J. EUGENE, Hollywood, Cal.	1907
LAWRENCE, JOHN B., 126 E. 30th St., New York City	1907
LELANDE, H. J., 1320 E. 15th St., Los Angeles, Cal.	1907
LEVEY, W. CHARLESWORTH, 53 Waverly St., Brookline, Mass.	1908
LEIBELSPERGER, WALTER H., Fleetwood, Pa.	1907
LINTON, CLARENCE B., 1754 Pine St., Long Beach, Cal.	1908
LONG, WILLIAM B., 249 Tappan St., Brookline, Mass.	1907
LOOMIS, JOHN A., Mereta, Texas	1887
LORD, Rev. WILLIAM R., Needham, Mass.	1901
LOW, ETHELBERT T., 30 Broad St., New York City	1907
LUM, EDWARD H., Chatham, N. J.	1904
LURVEY, SAMUEL A., Box 161, South West Harbor, Maine	1908
MACDOUGALL, GEORGE R., 131 W. 73rd St., New York City	1890
MACKIE, WM. C., 54 Coolidge St., Brookline, Mass.	1908
MACLAY, MARK W., Jr., 70 West 55th St., New York City	1905
MADDOCK, Miss EMELINE, The Belgravia, Philadelphia, Pa.	1897
MAHER, J. E., Windsor Locks, Conn.	1902
MAITLAND, ROBERT L., 45 Broadway, New York City	1889
MARBLE, RICHARD M., 7 Keiffer St., Brookline, Mass.	1907
MARCH, Prof. JOHN LEWIS, Union College, Schenectady, N. Y.	1903
MARRS, Mrs. KINGSMILL, Saxonville, Mass.	1903
MARSDEN, H. W., Witch Creek, Cal.	1904
MARSH, DANIEL J., Five Cent Savings Bank, Springfield, Mass.	1894
MARTIN, Miss MARIA ROSS, College Ave., New Brunswick, N. J.	1902
MARX, EDWARD J. F., 8 Chestnut Terrace, Easton, Pa.	1907
MATHEWS, F. SCHUYLER, 17 Frost St., Cambridge, Mass.	1908
MCATEE, WALDO LEE, Dept. of Agriculture, Washington, D. C.	1903
McCLINTOCK, NORMAN, 504 Amberson Ave., Pittsburgh, Pa.	1900
McCONNELL, HARRY B., Box 77, Cadiz, O.	1904
McCOOK, PHILIP JAMES, 15 William St., New York City	1895
MC EWEN, DANIEL C., 160 Stirling Pl., Brooklyn, N. Y.	1901
McHATTON, Dr. HENRY, Macon, Ga.	1898
McILHENNY, EDWARD AVERY, Avery Island, La.	1894
MCINTIRE, Mrs. HERBERT BRUCE, 4 Garden St., Cambridge, Mass.	1908
McKECHNIE, FREDERICK BRIDGHAM, Ponkapog, Mass.	1900
McLAIN, ROBERT BAIRD, Market and 12th Sts., Wheeling, W. Va.	1893
McMILLAN, Mrs. GILBERT, Gorham, N. H.	1902
MEAD, Mrs. E. M., 2465 Broadway, New York City	1904
MEEKER, JESSE C. A., 51 Washington Ave., Danbury, Conn.	1899
MERRIAM, CHARLES, Weston, Mass.	1908

MERRIAM, HENRY F., 94 New England Ave., Summit, N. J.	1905
MERRILL, HARRY, Bangor, Maine.	1883
MERSHON, W. B., Saginaw, Mich.	1905
METCALF, WILLARD L., 33 West 67th St., New York City.	1908
MILLER, JAMES HENRY, Lowville, N. Y.	1904
MILLS, HARRY C., Box 218, Unionville, Conn.	1897
MILLS, Prof. WILLIAM C., Ohio State Univ., Columbus, O.	1900
MITCHELL, Dr. WALTON I., 321 Barnes Bldg., Wichita, Kan.	1893
MONTGOMERY, THOMAS H., Jr., Univ. of Penn., Philadelphia, Pa.	1899
MOORE, Miss ELIZ. PUTNAM, 70 West 11th St., New York City.	1905
MOORE, ROBERT THOMAS, W. Main St., Haddonfield, N. J.	1898
MORCOM, G. FREAN, 1815 N. Raymond Ave., Pasadena, Cal.	1886
MORGAN, ALBERT, 125 Trumbull St., Hartford, Conn.	1903
MORSE, Miss MARGARET, Clark University, Worcester, Mass.	1907
MOSHER, FRANKLIN H., 17 Highland Ave., Melrose, Mass.	1905
MURPHEY, Dr. EUGENE E., 444 Tellfair St., Augusta, Ga.	1903
MURPHY, ROBERT C., Brown Univ., Providence, R. I.	1905
MYERS, Mrs. HARRIET W., 306 Ave. 66, Los Angeles, Cal.	1906
MYERS, Miss LUCY F., Brookside, Poughkeepsie, N. Y.	1898
NASH, C. W., 94 Lee Ave., Toronto, Ont.	1906
NASH, HERMAN W., Box 264, Pueblo, Colo.	1892
NASH, NATHANIEL C., Jr., Hastings 36, Cambridge, Mass.	1907
NELSON, EMORY E., 531 Grain Exchange, Winnipeg, Canada	1908
NELSON, JAMES ALLEN, Bureau of Entomology, Washington, D. C.	1898
NEWHALL, DANIEL S., Strafford, Chester Co., Pa.	1908
NEWMAN, Rev. STEPHEN M., Eastern College, Front Royal, Va.	1898
NICHOLS, JOHN M., 46 Spruce St., Portland, Me.	1890
NICHOLS, JOHN TREADWELL, 42 W. 11th St., New York City.	1901
NOLTE, Rev. FELIX, St. Benedict's College, Atchison, Kan.	1903
NORRIS, J. PARKER, Jr., care of Evening Bulletin, Philadelphia, Pa.	1904
NORRIS, ROY C., 301 West 18th St., Richmond, Ind.	1904
NOWELL, JOHN ROWLAND, Box 979, Schenectady, N. Y.	1897
O'CONNOR, HALDEMAN, 25 N. Front St., Harrisburg, Pa.	1896
OGDEN, Dr. HENRY Vining, 141 Wisconsin St., Milwaukee, Wis.	1897
OLDYS, HENRY, Dept. of Agriculture, Washington, D. C.	1896
*OLIVER, Dr. HENRY KEMBLE, 2 Newbury St., Boston, Mass.	1900
OWEN, Miss JULIETTE AMELIA, 306 N. 9th St., St. Joseph, Mo.	1897
PAINE, AUGUSTUS G., Jr., 18 West 49th St., New York City.	1886
PANGBURN, CLIFFORD H., 731 Elm St., New Haven, Conn.	1907
PARKER, Hon. HERBERT, S. Lancaster, Mass.	1904
PAUL, LUCIUS H., 59 West Miller St., Newark, New York.	1908
PEABODY, Rev. P. B., Blue Rapids, Kan.	1903
PEARSE, THEED, Ivy, Va.	1907
PEARSON, LEONARD S., 132 Beechtree Lane, Wayne, Pa.	1907
PEAVEY, ROBERT W., 791 Coney Island Ave., Brooklyn, N. Y.	1903
PEET, MAX M., Alpha Kappa Kappa House, 1001 Huron St., Ann Arbor, Mich.	1907

PERRY, Dr. ELTON, 610 Baylor St., Austin, Tex.	1902
PETERS, ALBERT S., State Bank, Lake Wilson, Minn.	1908
PETERS, JAMES LEE, Walnut Ave., Jamaica Plain, Mass.	1904
PHILIPP, PHILIP B., 51 West 85th St., New York City	1907
PHILLIPS, ALEXANDER H., Princeton, N. J.	1891
PHILLIPS, JOHN CHARLES, 299 Berkeley St., Boston, Mass.	1904
PHILLIPS, SHERMAN E., Canterbury, N. H.	1904
PIERCE, A. K., Renovo, Pa.	1891
PIPER, Mrs. FRANCIS, 10 Harvard St., Arlington Heights, Mass.	1908
PITCAIRN, WILLIAM G., 3330 Perrysville Ave., Allegheny, Pa.	1906
POE, Miss MARGARETTA, 1500 Park Ave., Baltimore, Md.	1899
POLLOCK, ADELAIDE L., Queen Anne School, Seattle, Wash.	1906
POMEROY, HARRY KIRKLAND, Box 575, Kalamazoo, Mich.	1894
POPE, ALEXANDER, 1013 Beacon St., Brookline, Mass.	1908
PORTER, LOUIS H., Stamford, Conn.	1893
PRAEGER, WILLIAM E., 421 Douglas Ave., Kalamazoo, Mich.	1892
PRICE, ARTHUR E., Grant Park, Ill.	1908
PRICE, JOHN HENRY, Crown W Ranch, Knowlton, Mont.	1906
PURDY, JAMES B., R. F. D. No. 4, Plymouth, Mich.	1893
RAVEN, HENRY C., Bay Shore, N. Y.	1908
RAWLE, FRANCIS W., Lock Box 51, Bryn Mawr, Pa.	1907
RAWSON, CALVIN LUTHER, R. F. D. No. 2, Putnam, Conn.	1885
READ, ALBERT M., 1140 15th St. N. W., Washington, D. C.	1895
REAGH, Dr. ARTHUR LINCOLN, 39 Maple St., West Roxbury, Mass.	1896
REDFIELD, ALFRED C., Wayne, Pa.	1907
REDFIELD, Miss ELISA WHITNEY, 29 Everett St., Cambridge, Mass.	1897
REDINGTON, ALFRED POETT, Box 66, Santa Barbara, Cal.	1890
REED, CHESTER A., 75 Thomas St., Worcester, Mass.	1904
REED, Miss EMILY E., 12 Louisburg Sq., Boston, Mass.	1904
REED, HUGH DANIEL, 108 Brandon Place, Ithaca, N. Y.	1900
REED, Mrs. WILLIAM HOWELL, Belmont, Mass.	1904
REHN, JAMES A. G., Acad. Nat. Sciences, Philadelphia, Pa.	1901
REMINGTON, CHARLES H., 216 Waterman Ave., East Providence, R. I.	1908
RHOADS, CHARLES J., Bryn Mawr, Pa.	1895
RICHARDS, Miss HARRIET E., 36 Longwood Ave., Brookline, Mass.	1900
RICHARDSON, C. H., Jr., Stanford University, Cal.	1903
RICHARDSON, JOHN KENDALL, Wellesley Hills, Mass.	1896
RIDGWAY, JOHN L., Chevy Chase, Md.	1890
RIKER, CLARENCE B., Maplewood, N. J.	1885
ROBERTS, JOHN T., Jr., 350 Main St., Buffalo, N. Y.	1906
ROBERTS, WILLIAM ELY, George School, Bucks Co., Pa.	1902
ROBINSON, ANTHONY W., 409 Chestnut St., Philadelphia, Pa.	1903
ROBINSON, Dr. PHILIP E., 102 Huntington Ave., Boston, Mass.	1908
RODDY, Prof. H. JUSTIN, State Normal School, Millersville, Pa.	1891
ROE, CHARLES M., Battle Creek, Mich.	1906
ROGERS, CHARLES H., 109 Patton Hall, Princeton, N. J.	1904

ROOSEVELT, FRANKLIN DELANO, Hyde Park, N. Y.	1896
ROSS, GEORGE H., 23 West St., Rutland, Vt.	1904
ROWLEY JOHN, 505 Everett Ave., Palo Alto, Cal.	1889
SABINE, GEORGE K., 30 Irving St., Brookline, Mass.	1903
SAGE, HENRY M., Menands Road, Albany, N. Y.	1885
SALLEY, FITZHUGH, Charleston Museum, Charleston, S. C.	1907
SANDS, AUSTIN LEDYARD, Greenough Place, Newport, R. I.	1902
SANFORD, HARRISON, 65 W. 50th St., New York City	1905
SANFORD, DR. LEONARD C., 216 Crown St., New Haven, Conn.	1902
SANTENS, JOSEPH A., Carnegie Museum, Pittsburgh, Pa.	1907
SASS, HERBERT RAVENEL, 23 Legare St., Charleston, S. C.	1906
SATTERTHWAIT, A. F., Office of State Zoölogist, Harrisburg, Pa.	1907
SAUNDERS, ARETAS A., care of Forest Service, Bozeman, Mont.	1907
SAVAGE, WALTER GILES, Montere, Mo.	1898
SCHANTZ, ORPHEUS M., Morton Park, Ill.	1907
SCHMUCKER, DR. S. C., Rosedale Ave., West Chester, Pa.	1903
SEABURY, JOSEPH S., Wellesley Hills, Mass.	1906
SEISS, COVINGTON FEW, 1338 Spring Garden St., Philadelphia, Pa.	1898
SHANNON, WM. PURDY, 1170 Broadway, New York City	1908
SHARPLES, ROBERT P., West Chester, Pa.	1907
SHATTUCK, EDWIN HAROLD, Box 48, Granby, Conn.	1898
SHAW, WILLIAM T., 600 Linden Ave., Pullman, Wash.	1908
SHEARER, AMON R., Mont Belvieu, Tex.	1905
*SHERMAN, Miss ALTHEA R., National, Iowa.	1907
SHIRAS, GEORGE, 3d, Stoneleigh Court, Washington, D. C.	1907
SHOEMAKER, FRANK H., 2960 Dewey Ave., Omaha, Neb.	1895
SHROSBREE, GEORGE, Public Museum, Milwaukee, Wis.	1899
SHUMWAY, GEORGE, Galesburg, Ill.	1906
SILLIMAN, HARPER, 562 5th Ave., New York City.	1902
SMITH, BYRON L., 2140 Prairie Ave., Chicago, Ill.	1906
SMITH, Rev. FRANCIS CURTIS, Boonville, N. Y.	1903
SMITH, HORACE G., Capitol Bldg., Denver, Colo.	1888
SMITH, DR. HUGH M., 1209 M St. N. W., Washington, D. C.	1886
SMITH, JESSE L., 141 South 2nd St., Highland Park, Ill.	1907
SMITH, LOUIS IRVIN, Jr., 3809 Chestnut St., Philadelphia, Pa.	1901
SMITH, N. A. C., Wellesley Hills, Mass.	1907
SMITH, PHILO W., Jr., Box 285, Eureka Springs, Ark.	1903
SMYTH, Prof. ELLISON A., Jr., Polytechnic Inst., Blacksburg, Va.	1892
SNYDER, WILL EDWIN, 109 E. Mackie St., Beaver Dam, Wis.	1895
SPAULDING, FRED B., Lancaster, N. H.	1894
STANTON, Prof. J. Y., 410 Main St., Lewiston, Me.	1883
STEBBINS, Miss FANNIE A., 480 Union St., Springfield, Mass.	1903
STEELE, JOHN H., 4008 Spruce St., West Philadelphia, Pa.	1906
STEVENS, CAROLINE M., 52 Bowdoin St., Portland, Me.	1906
STEVENS, DR. J. F., Lock Box 546, Lincoln, Neb.	1908
STILES, EDGAR C., 345 Main St., West Haven, Conn.	1907

STONE, CLARENCE F., Branchport, N. Y.	1903
STONE, NATHAN F., Shrewsbury, Mass.	1908
STRATTON-PORTER, Mts. GENE, Limberlost Cabin, Geneva, Ind.	1906
STURTEVANT, EDWARD, St. George's School, Newport, R. I.	1896
STYER, Mrs. KATHARINE R., Concordville, Pa.	1903
SURFACE, Prof. HARVEY ADAM, State Zoölogist, Harrisburg, Pa.	1897
SWAIN, JOHN MERTON, Box 142, Farmington, Me.	1899
SWALES, BRADSHAW HALL, Grosse Isle, Mich.	1902
SWARTH, HARRY S., Univ. of Cal. Mus. of Vert. Zool., Berkeley, Cal.	1900
SWENK, MYRON H., 318 North 27th St., Lincoln, Neb.	1904
SWEZNEY, GEORGE, 61 Polk St., Newark, N. J.	1901
SWIFT, CARLETON B., St. Mark's School, Southborough, Mass.	1907
TAVERNER, PERCY A., 55 Elmhurst Ave., Highland Park, Mich.	1902
TAYLOR, ALEXANDER R., 1410 Washington St., Columbia, S. C.	1907
TAYLOR, ALEXANDER O'DRISCOLL, 132 Bellevue Ave., Newport, R. I.	1888
TAYLOR, THORNE C., Hubbard Woods, Ill.	1908
TERRILL, LEWIS McI., 352 Elin Ave., Westmount, Quebec.	1907
TEST, CHARLES DARWIN, Golden, Colo.	1906
TEST, Dr. FREDERICK CLEVELAND, 4318 Grand Boulevard Chicago, Ill.	1892
TEST, LOUIS AGASSIZ, Occidental College, Los Angeles, Cal.	1908
THOMAS, Miss EMILY HINDS, 2000 Spruce St., Philadelphia, Pa.	1901
THOMPSON, ROY, University, N. D.	1905
THORNE, SAMUEL, 43 Cedar St., New York City.	1908
TINKER, ALMERIN D., 631 S. 12th St., Ann Arbor, Mich.	1907
TOPPAN, GEORGE L., 723 11th St. N. W., Washington, D. C.	1886
TOWER, Mrs. KATE DENIG, Hotel Bristol, Boston, Mass.	1908
TOWNSEND, WILMOT, 272 75th St., Brooklyn, N. Y.	1894
TREGANZA, A. O., 610 Utah Saving's & Trust Bldg., Salt Lake City, Utah.	1906
TROTTER, WILLIAM HENRY, 36 N. Front St., Philadelphia, Pa.	1899
TRUMBULL, J. H., Plainville, Conn.	1907
TUCKER, Dr. HENRY, 2000 Pine St., Philadelphia, Pa.	1907
TUDBURY, WARREN C., 8 Mall St., Salem, Mass.	1903
TUFTS, LE ROY MELVILLE, Thrushwood, Farmington, Me.	1903
TUTTLE, Dr. ALBERT H., 350 Charles River Road, Cambridge, Mass.	1908
TUTTLE, Dr. CARL, Berlin Heights, Ohio.	1890
TWEEDY, EDGAR, 404 West 115th St., New York City.	1902
UNDERWOOD, WILLIAM LYMAN, Mass. Inst. Technology, Boston, Mass.	1900
UPHAM, Mrs. WILLIAM H., 212 3rd Ave., Marshfield, Wis.	1907
VALENTINE, Miss ANNA J., Bellefonte, Pa.	1905
VALENTINE, Miss LUCY W., 2 Trowbridge Terrace, Cambridge, Mass.	1908
VAN CORTLANDT, Miss ANNE S., Croton-on-Hudson, N. Y.	1885
VAN NAME, WILLARD GIBBS, 121 High St., New Haven, Conn.	1900
VAN SANT, Miss ELIZABETH, 2960 Dewey Ave., Omaha, Neb.	1896

VANTASSELL, F. L., 116 High St., Passaic, N. J.	1907
VARICK, Mrs. WILLIAM REMSEN, 1015 Chestnut St., Manchester, N. H.	1900
VETTER, DR. CHARLES, 50 Central Park West, New York City	1898
VON Lengerke, JUSTUS, 349 Fifth Ave., New York City	1907
VON ROSSEM, ADRIAN, La Casa Grande, Pasadena, Cal.	1908
VROOMAN, ISAAC H., Jr., 282 Hamilton St., Albany, N. Y.	1908
WADSWORTH, CLARENCE S., 37 Washington St., Middletown, Conn.	1906
WALES, EDWARD H., Hyde Park, N. Y.	1896
WALES, Miss ELLA, 186 Columbia Road, Dorchester, Mass.	1908
WALKER, DR. R. L., 355 Main Ave., Carnegie, Pa.	1888
WALLACE, DR. A. H., 204 Bellevue Ave., Upper Montclair, N. J.	1907
WALLACE, JAMES S., 69 Front St., Toronto, Ontario	1907
WALTER, HERBERT E., DR., 53 Arlington Ave., Providence, R. I.	1901
WALTERS, FRANK, South Sandisfield, Mass.	1902
WARD, FRANK HAWLEY, N. Y. State Museum, Albany, N. Y.	1908
WARD, HENRY L., 882 Hackett Ave., Milwaukee, Wis.	1906
WARNER, GOODWIN, 7 Hampden Hall, Cambridge, Mass.	1908
WARREN, DR. B. H., 236 W. Market St., West Chester, Pa.	1885
WARREN, EDWARD ROYAL, 20 W. Caramillo St., Colorado Springs, Colo	1902
WATSON, Miss SARAH R., The Cresheim Arms, Allen's Lane, Germantown, Philadelphia, Pa.	1900
WEBER, J. A., Box 216, Palisades Park, N. J.	1907
WEIR, J. ALDEN, 471 Park Ave., New York City	1899
WELLMAN, GORDON B., 54 Beltran St., Malden, Mass.	1908
WELLS, FRANK S., 916 Grant Ave., Plainfield, N. J.	1902
WENTWORTH, IRVING H., Matehuala, S. L. P., Mexico	1900
WESTON, FRANCIS M., Jr., care P. G. Porcher, Mt. Pleasant, S. C.	1907
WETMORE, ALEXANDER, care of Museum, Lawrence, Kansas	1908
WETMORE, Mrs. EDMUND, 343 Lexington Ave., New York City	1902
WEYGANDT, CORNELIUS, Wissahickon Ave. below Westview St., Germantown, Philadelphia, Pa.	1907
WHARTON, WILLIAM P., Groton, Mass.	1907
WHEELER, EDMUND JACOB, 177 Pequot Ave., New London, Conn.	1898
WHEELER, JOHN B., East Templeton, Mass.	1897
WHEELOCK, Mrs. IRENE G., 1040 Hinman Ave., Evanston, Ill.	1902
WHITE, FRANCIS BEACH, St. Paul's School, Concord, N. H.	1891
WHITE, GEORGE R., Dead Letter Office, Ottawa, Ont.	1903
WHITE, W. A., 158 Columbia Heights, Brooklyn, N. Y.	1902
WHITEHEAD, ELY L., 712 Michigan Ave., Evanston, Ill.	1908
WICKERSHAM, CORNELIUS W., Hastings 2, Cambridge, Mass.	1902
WILBUR, ADDISON P., 60 Gibson St., Canandaigua, N. Y.	1895
WILCOX, Miss ALICE W., 165 Prospect St., Providence, R. I.	1908
WILCOX, DR. EMMA D., 307 W. 98th St., New York City	1905
WILCOX, T. FERDINAND, 115 W. 75th St., New York City	1895
WILDE, MARK L. C., 311 N. 5th St., Camden, N. J.	1893

WILLARD, BERTEL G., Box 107, Millis, Mass.	1906
WILLIAMS, HARRY C., 5005 Cabanne Ave., St. Louis, Mo.	1908
WILLIAMS, J. BICKERTON, Biological Museum, Queen's Park, Toronto, Ontario	1889
WILLIAMS, RICHARD FERDINAND, Box 521, New York City	1902
WILLIAMS, ROBERT S., New York Botanical Gardens, Bronx Park, New York City	1888
WILLIAMS, ROBERT W., Jr., U. S. Dept. Agriculture, office of the Solicitor, Washington, D. C.	1900
WILLIAMSON, E. B., Bluffton, Ind.	1900
WILSON, SIDNEY S., German American Bank Bldg., St. Joseph, Mo.	1895
WING, HENRY A., 505 S. 6th St., Maywood, Ill.	1908
WISLER, J. JAY, 231 Cherry St., Columbia, Pa.	1903
WISTER, WILLIAM ROTCH, 505 Chestnut St., Philadelphia, Pa.	1904
WITHERBEE, Mts F. B., 106 Berkeley St., West Newton, Mass.	1906
WOOD, J. CLAIRE, 179 17th St., Detroit, Mich.	1902
WOOD, NELSON R., Smithsonian Institution, Washington, D. C.	1895
WOOD, NORMAN A., 1216 S. University Ave., Ann Arbor, Mich.	1904
WOODCOCK, ARTHUR ROY, Corvallis, Oregon	1901
WOODRUFF, FRANK M., Acad. Sciences, Chicago, Ill.	1904
WOODRUFF, LEWIS B., 14 E. 68th St., New York City	1886
WOODWORTH, Mrs. NELLY HART, 41 Bank St., St. Albans, Vt.	1894
WORCESTER, Mts. ALFRED, Bacon St., Waltham, Mass.	1908
WORTHEN, CHARLES K., Box 103, Warsaw, Ill.	1891
WORTHINGTON, WILLIS W., Shelter Island Heights, N. Y.	1889
WRIGHT, ALBERT H., 804 E. Seneca St., Ithaca, N. Y.	1906
WRIGHT, Miss HARRIET H., 1637 Gratiot Ave., Saginaw, W. S., Mich.	1907
WRIGHT, HORACE WINSLOW, 82 Myrtle St., Boston, Mass.	1902
WRIGHT, HOWARD W., 830 N. Orange Grove Ave., Pasadena, Cal.	1907
WRIGHT, SAMUEL, Conshohocken, Pa.	1895
WYMAN, LUTHER E., 1959 Washington Boulevard, Chicago, Ill.	1907
YOUNG, JOHN A., Calder Villa, Bridge of Allan, Scotland	1907
YOUNG, Mrs. WILLIAM A., 54 Temple St., West Newton, Mass.	1907
ZAPPEY, WALTER R., 19 Norfolk St., Roslindale, Mass.	1905
ZERRAHN, CARL OTTO, 106 Centre St., Milton, Mass.	1904
ZIMMER, J. T., Univ. State Farm, Lincoln, Neb.	1908

DECEASED MEMBERS.

FELLOWS.

	<i>Date of Death</i>
ALDRICH, CHARLES.....	March 8, 1908
BAIRD, SPENCER FULLERTON.....	Aug. 19, 1887
BENDIRE, CHARLES EMIL.....	Feb. 4, 1897
COUES, ELLIOTT.....	Dec. 25, 1899
GOSS, NATHANIEL STICKNEY.....	March 10, 1891
HOLDER, JOSEPH BASSETT.....	Feb. 28, 1888
JEFFRIES, JOHN AMORY.....	March 26, 1892
MCILWRAITH, THOMAS.....	Jan. 31, 1903
MERRILL, JAMES CUSHING.....	Oct. 27, 1902
SENNETT, GEORGE BURRITT.....	March 18, 1900
TRUMBULL, GURDON.....	Dec. 28, 1903
WHEATON, JOHN MAYNARD.....	Jan. 28, 1887

HONORARY FELLOWS.

BLANFORD, WILLIAM THOMAS.....	June 23, 1905
BOCAGE, J. V. BARBOZA DU.....	July, 1908
BURMEISTER, HERMANN.....	May 1, 1892
CABANIS, JEAN.....	Feb. 20, 1906
GÄTKE, HEINRICH.....	Jan. 1, 1897
GUNDLACH, JUAN.....	March 14, 1896
GURNEY, JOHN HENRY.....	April 20, 1890
HARTLAUB, GUSTAV.....	Nov. 20, 1900
HUXLEY, THOMAS HENRY.....	June 29, 1895
KRAUS, FERDINAND.....	Sept. 15, 1890
LAWRENCE, GEORGE NEWBOLD.....	Jan. 17, 1895
MILNE-EDWARDS, ALPHONSE.....	April 21, 1900
NEWTON, ALFRED.....	June 7, 1907
PARKER, WILLIAM KITCHEN.....	July 3, 1890
PELZELN, AUGUST VON.....	Sept. 2, 1891
SALVIN, OSBERT.....	June 1, 1898
SAUNDERS, HOWARD.....	Oct. 20, 1907
SCHLEGEL, HERMANN.....	Jan. 17, 1884
SEEBOHM, HENRY.....	Nov. 26, 1895
TACZANOWSKI, LADISLAS.....	Jan. 17, 1890

CORRESPONDING FELLOWS.

ALTUM, C. A.	Jan. 1, 1900
ANDERSON, JOHN	Aug. 16, 1900
BALDAMUS, EDUARD	Oct. 30, 1893
BLAKISTON, THOMAS WRIGHT	Oct. 15, 1891
BLASIUS, RUDOLPH	Sept. 21, 1907
BOGDANOW, MODEST NIKOLAEVICH	March 4, 1888
BRYANT, WALTER, E.	May 21, 1905
BULLER, WALTER LAWRY	July 19, 1906
COOPER, JAMES GRAHAM	July 19, 1902
CORDEAUX, JOHN	Aug. 1, 1899
DAVID, ARMAND	Nov. 10, 1900
FATIO, VICTOR	March 19, 1906
HAAST, JULIUS VON	Aug. 15, 1887
HARGITT, EDWARD	March 19, 1895
HOLUB, EMIL	Feb. 21, 1902
HOMEYER, EUGEN FERDINAND VON	May 31, 1889
LAYARD, EDGAR LEOPOLD	Jan. 1, 1900
LEVERKÜHN, PAUL	Dec. 5, 1905
LYTTELTON, THOMAS, LORD LILFORD	June 17, 1896
MARSCHALL, AUGUST FRIEDRICH	Oct. 11, 1887
MALMGREN, ANDERS JOHAN	April 12, 1897
MIDDENDORFF, ALEXANDER THEODORE VON	Jan. 28, 1894
MOSJISOVICS, FELIX G. HERMANN AUGUST	Aug. 27, 1897
OUSTALET, EMILE	Oct. 23, 1905
PHILIPPI, R. A.	Aug. — 1904
PREJEVALSKI, NICOLAS MICHAELOVICH	Oct. 20, 1887
PRENTISS, DANIEL WEBSTER	Nov. 19, 1899
PRYER, HARRY JAMES STOVIN	Feb. 17, 1888
RADDE, GUSTAV FERDINAND	— 1903
SCHRENCK, LEOPOLD VON	Jan. 20, 1894
SÉLEYS-LONGSCHAMPS, EDMOND DE	Dec. 11, 1900
SEVERTZOW, NICOLAI ALEKSEWICH	Feb. 8, 1885
STEVENSON, HENRY	Aug. 18, 1888
TRISTRAM, H. B.	March 8, 1906
WHARTON, HENRY T.	Sept. —, 1895
WOODHOUSE, SAMUEL W.	Oct. 23, 1904

MEMBERS.

FANNIN, JOHN	June 20, 1904
JUDD, SYLVESTER DWIGHT	Oct. 22, 1905
RALPH, WILLIAM LEGRANGE	July 8, 1907

ASSOCIATES.

ADAMS, CHARLES F.	May 20, 1893
ALLEN, CHARLES SLOVER	Oct. 15, 1893
ANTES, FRANK T.	Feb. 6, 1907
ATKINS, HARMON ALBRO	May 19, 1885
AVERY, WILLIAM CUSHMAN	March 11, 1894
BAILEY, CHARLES E.	—, 1905
BARLOW, CHESTER	Nov. 6, 1902
BAUR, GEORGE	June 25, 1898
BECKHAM, CHARLES WICKLIFFE	June 8, 1888
BILL, CHARLES	April —, 1897
BIRTWELL, FRANCIS JOSEPH	June 29, 1901
BOARDMAN, GEORGE AUGUSTUS	Jan. 11, 1901
BOLLES, FRANK	Jan. 10, 1894
BRACKETT, FOSTER H.	Jan. 5, 1900
BREESE, WILLIAM LAWRENCE	Dec. 7, 1889
BRENNINGER, GEORGE FRANK	Dec. 3, 1905
BRENNAN, CHARLES F.	Mar. 21, 1907
BROKAW, LOUIS W.	Sept. 3, 1897
BROWN, JOHN CLIFFORD	Jan. 16, 1901
BROWNE, FRANCIS CHARLES	Jan. 9, 1900
BURNETT, LEONARD E.	March 16, 1904
CAIRNS, JOHN S.	June 10, 1895
CALL, AUBREY BRENDON	Nov. 20, 1901
CAMPBELL, ROBERT ARGYLL	April —, 1897
CANFIELD, J. B.	Feb. 18, 1904
CARLETON, CYRUS	Nov. 15, 1907
CARTER, EDWIN	— 1900
CARTER, ISABEL PADDOCK	Sept. 15, 1907
CHADBOURNE, MRS. ARTHUR PATTERSON	Oct. 4, 1908
CLARK, JOHN NATHANIEL	Jan. 13, 1903
COE, W. W.	April 26, 1885
COLBURN, WILLIAM W.	Oct. 17, 1899
COLLETT, ALONSO M.	Aug. 22, 1902
CONANT, MRS. THOS. O.	Dec. 28, 1907
CORNING, ERASTUS, JR.	April 9, 1893
DAFFIN, WM. H.	April 21, 1902
DAKIN, JOHN ALLEN	Feb. 21, 1900
DAVIS, WALTER R.	April 8, 1907
DEXTER, NEWTON	July 27, 1901
ELLIOTT, SAMUEL LOWELL	Feb. 11, 1889
FAIRBANKS, FRANKLIN	April 24, 1895
FOWLER, JOSHUA LOUNSBURY	July 11, 1899
FULLER, CHARLES ANTHONY	Mar. 16, 1906
GESNER, ABRAHAM HERBERT	April 30, 1895

GOSS, BENJAMIN FRANKLIN.....	July 6, 1893
HATCH, JESSE MAURICE.....	May 1, 1898
HOADLEY, FREDERICK HODGES.....	Feb. 26, 1895
HOLMES, LARUE KLINGLE.....	May 10, 1906
HOOPES, JOSIAH.....	Jan. 16, 1904
HOWLAND, JOHN SNOWDON.....	Sept. 19, 1885
INGERSOLL, JOSEPH CARLETON.....	Oct. 2, 1898
JENKS, JOHN WHIPPLE POTTER.....	Sept. 27, 1894
JESURUN, MORTIMER.....	March —, 1905
JOUY, PIERRE LOUIS.....	March 22, 1894
KELKER, WM. A.....	Feb. 15, 1908
KNIGHT, WILBUR CLINTON'.....	July 8, 1903
KNOX, JOHN C.....	July 9, 1904
KNOX, JOHN COWING.....	June 1, 1904
KOCH, AUGUST.....	Feb. 15, 1907
KUMLIEN, LUDWIG.....	Dec. 4, 1902
KUMLIEN, THURE.....	Aug. 5, 1888
LAWRENCE, ROBERT HOE.....	April 27, 1897
LEE, LESLIE ALEXANDER.....	May 20, 1908
LINDEN, CHARLES.....	Feb. 3, 1888
LLOYD, ANDREW JAMES.....	June 14, 1906
MABBETT, GIDEON.....	Aug. 15, 1900
MAITLAND, ALEXANDER.....	Oct. 25, 1907
MARBLE, CHARLES C.....	Sept. 25, 1900
MARCY, OLIVER.....	March 19, 1899
MARIS, WILLARD LORRAINE.....	Dec. 11, 1895
MCKINLAY, JAMES.....	Nov. 1, 1899
MEAD, GEORGE SMITH.....	June 19, 1901
MINOT, HENRY DAVIS.....	Nov. 13, 1890
MORRELL, CLARENCE HENRY.....	July 15, 1902
NICHOLS, HOWARD GARDNER.....	June 23, 1896
NIMS, LEE.....	March 12, 1903
NORTHROP, JOHN I.....	June 26, 1891
PADDOCK, ISABEL M.....	Sept. 15, 1907
PARK, AUSTIN F.....	Sept. 22, 1893
PAULMIER, FREDERICK CLARK.....	March 3, 1906
POMROY, GRACE V.....	May 14, 1906
RAGSDALE, GEORGE HENRY.....	March 25, 1895
READY, GEORGE H.....	March 20, 1903
RICHARDSON, JENNESS.....	June 24, 1893
ROBINS, MRS. EDWARD.....	July 2, 1906
SAND, ISABELLA LOW.....	April 20, 1906
SELOUS, PERCY SHERBORN.....	April 7, 1900
SLATER, JAMES H.....	Feb. —, 1895
SLEVIN, THOMAS EDWARDS.....	Dec. 23, 1902
SMALL, EDGAR ALBERT.....	April 24, 1884

SMITH, CLARENCE ALBERT.....	May 6, 1896
SNOW, FRANCIS HUNTINGTON.....	Sept. 20, 1908
SOUTHWICK, JAMES MORTIMER.....	June 3, 1904
STOWE, W. H.....	March —, 1895
SWEIGER, Mrs. J. L.....	March 23, 1907
THOMPSON, MILLET T.....	Aug. 7, 1907
THORNE, PLATTE MARVIN.....	March 16, 1897
THURBER, EUGENE CARLETON.....	Sept. 6, 1896
VENNOR, HENRY GEORGE.....	June 8, 1884
WATERS, EDWARD STANLEY.....	Dec. 26, 1902
WILLARD, SAMUEL WELLS.....	May 24, 1887
WOOD, WILLIAM.....	Aug. 9, 1885
WOODRUFF, EDWARD SEYMOUR.....	Jan. 15, 1909
YOUNG CURTIS CLAY.....	July 30, 1902

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No. 1.

NOTES ON THE OCCURRENCE OF THE YELLOW RAIL IN MICHIGAN.¹

BY NORMAN A. WOOD.

THE YELLOW RAIL (*Coturnicops noveboracensis*) has so seldom been recorded from Michigan that, as I have recently obtained some additional data on its occurrence in the State, it seems advisable to publish these in connection with a review of the literature on the subject. In Michigan, as in the neighboring territory, owing to its rareness, secretiveness, or both, very little is known of the habits or local distribution of this species.

The first record is that of Abraham Sager (1839, p. 416), who gives it in his list of Michigan birds under the old name of *Rallus noveboracensis* Bon. It was next recorded by Manly Miles (1861, p. 230) in his list of Michigan birds as *Porzana noveboracensis* Bd. Neither of these writers give definite locality records.

In 1875 Major A. H. Boies (1875), of Hudson, Michigan, published a list of the 'Birds of Southern Michigan' in which he gives this species as a "summer sojourner." I have recently written Major Boies concerning this record and he has replied as follows: "The Yellow Rail referred to in my Catalogue, Birds of Southern Michigan, was taken by me in the summer of 1865, and being a female—adult—I gave it as a summer sojourner."

In his paper, 'The Migration of Michigan Birds,' Dr. J. B. Steere (1881, p. 123) includes the "Little Yellow Rail" in the list of birds nesting in Michigan and wintering to the south, but gives

¹ From the University Museum, University of Michigan, Ann Arbor.

no localities; and the same is true of Gibbs's paper, 'Annotated List of Michigan Birds' (1879, p. 493), in which he says of this species: "Rather rare, occasionally taken in spring, probably breeds." The last named writer in an article (1890, p. 230) on the Yellow Rail in Michigan says: "Never until now has my acceptance of the bird as a Michigan species been verified by myself. At dusk on Oct. 19, 1890, as two hunters of renown of this city (Kalamazoo), Messrs. O'Byrne and Francoise, were returning from a snipe shoot they flushed an immature specimen of this interesting little bird from thick grass on low land near water. Noticing it flew peculiarly and was a bird new to them they shot it and gave it to me. One mark they noted in particular which may be a point of identification when the bird is on the wing — the white spot on secondaries is plainly to be seen. They say that the bird sprung up with more vigor and flew swifter than the other rails." This specimen is now in the collection of the University of Michigan Museum.

In A. B. Covert's manuscript notes, now in the University of Michigan Museum, there is a short note on this species as follows: "Sept. 13, 1877, nine specimens were shot near Ann Arbor, of which one was secured by myself, and is now in the University Museum. Rest made a dinner for hunter." This specimen cannot be found, but there is little doubt as to the validity of the record. In his list of the birds of Washtenaw County, Mr. Covert (1881, p. 191) writes of the species as follows: "*Porzana noveboracensis*: a rare migrant."

In reply to a letter requesting additional data on the occurrence of the species within our limits, Prof. Walter B. Barrows, Michigan Agricultural College, has kindly sent me the following notes: "One or two were taken in muskrat traps at Vicksburg, Michigan, by D. Corwin of that place; another specimen was picked up mutilated and too much decomposed for preservation, in the center of Kalamazoo City, about the middle of Sept., 1900. This specimen was doubtless killed by flying against the telephone wires (Dr. M. Gibbs, *The Bittern*, Grand Rapids, 1901, p. 4). Dr. Gibbs also records another specimen taken in autumn (date not specified) near Kalamazoo, by Wm. O'Byrne (Bull. Mich. Orn. Club, II, 1898, p. 7) [probably the same specimen referred to by Gibbs (1890, p. 230)]; and there is a mounted specimen in the

Barron collection at Niles, which was examined by the writer in November, 1905. This specimen has no label, but undoubtedly was taken in the vicinity.

"Jerome Trombley, Petersburg, Mich., has a set of four eggs, which in size and coloration meet perfectly the requirements for this species, and which were taken May 29, 1894, in the township of Ida, Monroe County, Mich. Mr. Trombley did not take the eggs himself, but his collector described the bird which was flushed from the nest, and his description tallied well with that of the Yellow Rail. The situation was in a large cranberry marsh, and the nest was fastened to the tops of the long marsh-grass, the bottom resting on, or just reaching, the water. It was composed entirely of marsh-grass. Mr. Trombley says: 'From the size and appearance of both the bird and eggs the evidence is fairly conclusive, although it is not absolutely certain that the bird was a Yellow Rail.'"

An unpublished record for the State is that of Mr. Arthur G. Baumgartel of Grand Rapids, Michigan. He has lately written me in regard to the notes referred to as follows: "I have your letters of the 2nd inst. with reference to the occurrence of the Yellow Rail in Michigan. The pair of Yellow Rail mentioned was taken by me in 1896 in the marsh north of Holland (Ottawa Co.), Michigan. The male on April 21st and the female on April 28th. These birds are now in the Hope College Museum at Holland, [Michigan]. On one of these dates I took a third specimen but it fell in a very boggy place and my young dog, in his hurry to retrieve, jumped on the bird, sinking it into the mud beyond recovery."

In the collection of Mr. Percy A. Taverner of Highland Park, Michigan, is the skin of "a female that was caught alive by a dog on March 25, 1908, north of and just beyond the city (Detroit) limits. Another bird of the same kind was said to have been flushed immediately afterwards but could not be secured. The one taken was presented to me, I endeavored to keep it alive but without success." (Taverner, 1908, p. 327.)

My only experience with this species is as follows: On the morning of Sept. 30, 1908, an adult male in fine plumage was found alive near the Museum, on the University of Michigan campus. When first seen the bird was running about in a bewildered way, and when approached flew away a few feet, but was easily captured.

It was taken to the Zoölogical Department, and in the afternoon was brought alive to the Museum. The bird was very quiet and did not seem to be afraid even when stroked with the hand; it walked quietly about in the shallow box in which it was confined, but was rather droopy. I gave it water in a shallow dish and after I had immersed the bill it raised its head and swallowed; it then drank of its own accord, first dipping its bill in the water, then raising it up in the same manner that a chicken does. The water seemed to revive it, and it appeared to feel quite natural, walking about and pecking at the bottom of the case. It was later fed with small pieces of raw beef which were placed in its bill, but while it swallowed some of these it was not able to pick up food, as the head was injured and the mandibles would not meet. The right eye was also injured, and could not be opened. The bird stepped into the dish of water and acted as though it wished to bathe, but the dish was too small, and I removed it as I did not wish the bird's plumage wet. It was too late and dark to take a photograph, so we waited until about 10 o'clock the following morning, when I placed the bird on a ground nest of the Black-crowned Night Heron and had it photographed. The bird was not as strong as on the evening before and could not stand erect. The bird was in a sitting position with its plumage raised, making it look like a ball of feathers. The bird seemed to be suffering from its injuries and was chloroformed. On skinning it I found a deep cut on the breast, and another across the right eye and side of the head. These injuries were probably caused by the bird striking against wires or buildings while passing through the campus on its migration.

References.

1875. **Boies, A. H.** Catalogue of the Birds Ascertained to Occur in Southern Michigan. Hudson, Michigan.
1881. **Covert, Adolphe B.** Natural History [Michigan]. History of Washtenaw County, Michigan, pp. 173-194. Chicago.
1879. **Gibbs, Dr. Morris.** Annotated List of the Birds of Michigan. Bull. Geol. and Geog. Surv. Terr., V, pp. 481-497.
1890. —, —. The Yellow Rail, *Porzana noveboracensis* (Gmel.), in Michigan. The Oologist, VII, pp. 230-231.
1898. —, —. Additions to the Avifauna of Kalamazoo County, Michigan. Bull. Mich. Ornith. Club, II, p. 7.

1861. **Miles, Manly.** Report of the State Zoologist. First Biennial Report Geol. Surv. Michigan, pp. 213-241.

1839. **Sager, Abraham.** Report of Dr. Abraham Sager, Zoologist of Geological Survey. House Documents of the State of Michigan, Ann. Sess. 1839, pp. 410-421.

1881. **Steere, J. B.** The Migration of Michigan Birds. Tenth Ann. Rept. State Horticultural Society of Michigan, 1880, pp. 115-124.

1908. **Taverner, Percy A.** Four Rare Birds in Southeastern Michigan. The Auk, XXV, pp. 327-328.

SOME BIRDS OF BAKER COUNTY, OREGON.

BY STANLEY G. JEWETT.

THE following list of birds was made during a stay in Baker County between March 10 and August 17, 1906, and May 1 to June 2, 1907. Some interesting species were described to the author by hunters and prospectors, but they have been omitted, as no accurate data were secured. Some species, as the Franklin's Grouse and McFarlane's Screech Owl, are residents in adjoining counties.

The section treated in this list is about fifty miles northeast of Baker City in the Powder River Mountains.

The timber consists largely of yellow and black pine, red and white fir, tamarack and spruce. The open dry hillsides are covered with mountain laurel, while in the vicinity of water are to be found cottonwood and willow.

In the identification of many species the author desires to thank Mr. A. W. Anthony of Portland, Oregon; also the United States National Museum for identifying some of the more doubtful species.

1. **Mergus americanus.** AMERICAN MERGANSER.—A pair was seen flying up the creek on March 27.
2. **Actitis macularia.** SPOTTED SANDPIPER.—Seen several times during the summer.
3. **Dendragapus richardsonii.** RICHARDSON'S GROUSE.—Abundant resident; nests in April and May.

4. **Bonasa umbellus umbelloides.** GRAY RUFFED GROUSE.—Common resident, frequenting the heavy undergrowth near the creeks. A nest found on June 10, 1906, contained nine fresh eggs.
5. **Zenaidura macroura.** MOURNING DOVE.—Two seen on July 6. Doves are abundant in the sage-brush country but apparently rare in the timber.
6. **Cathartes aura septentrionalis.** TURKEY VULTURE.—Common all summer. A nest in a cavity of rock, with two small young, was found May 25, 1907.
7. **Accipiter velox.** SHARP-SHINNED HAWK.—Common; breeds.
8. **Accipiter cooperi.** COOPER'S HAWK.—Very common; breeds.
9. **Buteo borealis calurus.** WESTERN RED-TAIL.—Fairly common.
10. **Aquila chrysaëtos.** GOLDEN EAGLE.—Seen several times during the summer.
11. **Falco sparverius phalœna.** DESERT SPARROW HAWK.—Common all summer. One pair raised a brood in the same tree with a pair of Pileated Woodpeckers.
12. **Pandion haliaëtus carolinensis.** AMERICAN OSPREY.—Seen but once, on June 20, 1906.
13. **Bubo** sp. GREAT HORNED OWL.—Notes of *Bubo* were often heard during the night, but as no specimens were taken the subspecies was not determined.
14. **Ceryle alcyon.** BELTED KINGFISHER.—Common; breeds.
15. **Dryobates villosus monticola.** ROCKY MOUNTAIN HAIRY WOOD-PECKER.—Abundant resident in the thick fir and pine groves.
16. **Xenopicus albolarvatus.** WHITE-HEADED WOODPECKER.—Common resident, nesting in the tops of dead pines.
17. **Picoides arcticus.** ARCTIC THREE-TOED WOODPECKER.—Seen but once, May 29, 1906.
18. **Sphyrapicus varius nuchalis.** RED-NAPED SAPSUCKER.—One male taken on April 28, 1906; no more seen until August 2, 1906, when I saw a female and one young.
19. **Sphyrapicus thyroides.** WILLIAMSON'S SAPSUCKER.—Common all summer, nesting in the tall pines on the high ridges.
20. **Phœnotomus pileatus abieticola.** NORTHERN PILEATED WOOD-PECKER.—Common resident; several nests seen in dead pines, ranging from twenty to seventy feet up.
21. **Asyndesmus lewisi.** LEWIS'S WOODPECKER.—Common enough on the edge of the timber but rarely found far from the open plains.
22. **Phalaenoptilus nuttalli.** POOR-WILL.—Mr. A. W. Anthony often heard notes of the Poor-will at Sparta.
23. **Chordeiles virginianus henryi.** WESTERN NIGHT HAWK.—Abundant summer resident.
24. **Chætura vauxi.** VAUX'S SWIFT.—Fairly common during June and July.
25. **Stellula calliope.** CALLIOPE HUMMINGBIRD.—This beautiful little

hummer was common everywhere. Three nests found were in fir trees, ranging from four to seven feet up. One nest was found in some moss hanging over rocks.

26. **Selasphorus rufus.** RUFOUS HUMMINGBIRD.—Fairly common during May, 1907, but absent the year before.

27. **Tyrannus tyrannus.** KINGBIRD.—The common eastern Kingbird is common all over Eastern Oregon.

28. **Tyrannus verticalis.** ARKANSAS KINGBIRD.—Equally as common as the former.

29. **Sayornis saya.** SAY'S PHOEBE.—Fairly common.

30. **Nuttallornis borealis.** OLIVE-SIDED FLYCATCHER.—Fairly common; arrives about April 19.

31. **Empidonax hammondi.** HAMMOND'S FLYCATCHER.—Abundant all summer; nests well up in fir or spruce.

32. **Empidonax wrighti.** WRIGHT'S FLYCATCHER.—Equally common; nests in willows on the hillsides.

33. **Myiochanes richardsoni.** WESTERN WOOD PEWEE.—Fairly common summer resident.

34. **Pica pica hudsonica.** AMERICAN MAGPIE.—Abundant resident; hundreds of their large bulky nests may be seen from the stage road between Baker City and Sparta.

35. **Cyanocitta stelleri annectens.** BLACK-HEADED JAY.—Common resident. A nest found on July 8, 1906, contained four young about a week old; nest eight feet up in a small fir on a hillside.

36. **Perisoreus canadensis capitalis.** ROCKY MOUNTAIN JAY.—Seen but once, May 29, 1906, two individuals.

37. **Nucifraga columbiana.** CLARK'S CROW.—Common resident. Saw female feeding four large young on May 14, 1906.

38. **Molothrus ater.** COWBIRD.—One, June 10, 1906.

39. **Sturnella neglecta.** WESTERN MEADOWLARK.—Common in all the open country of Baker County.

40. **Icterus bullocki.** BULLOCK'S ORIOLE.—Common among the cottonwoods.

41. **Euphagus cyanocephalus.** BREWER'S BLACKBIRD.—Abundant in the grain fields during August.

42. **Carpodacus cassini.** CASSIN'S PURPLE FINCH.—Abundant summer resident; first seen April 1, 1906. Several pairs had nests close to our camp.

43. **Loxia curvirostra minor.** AMERICAN CROSSBILL.—Common resident; breeds.

44. **Leucosticte tephrocotis.** GRAY-CROWNED LEUCOSTICTE.—Two specimens taken from a flock containing about one hundred birds of both *L. tephrocotis* and *L. t. littoralis* on March 14, 1906.

45. **Leucosticte tephrocotis littoralis.** HEPBURN'S LEUCOSTICTE.—Abundant in large flocks when I arrived at Sparta, March 13, 1906, feeding around haystacks and corrals.

46. *Spinus pinus*. PINE SISKIN.—Abundant summer resident. Siskins and Cassin's Purple Finches were abundant around the camp yard all summer.

47. *Spizella passerina arizonae*. WESTERN CHIPPING SPARROW.—Abundant summer resident. First seen April 29, 1906.

48. *Junco hyemalis shufeldti*. SHUFELDT'S JUNCO.—Common resident.

49. *Melospiza melodia merrilli*. MERRILL'S SONG SPARROW.—Seen but once in the mountains on April 10; common enough in the open country to the south.

50. *Melospiza lincolni*. LINCOLN'S SPARROW.—A single specimen taken May 31, 1907.

51. *Passerella iliaca schistacea*. SLATE-COLORED SPARROW.—First seen April 28, 1906. On June 22, 1906, while clearing away some brush I found a nest containing one fresh egg and the dead female. The ovary of the dead bird contained a perfect egg.

52. *Pipilo maculatus montanus*. MOUNTAIN TOWHEE.—Fairly common. First seen March 26, 1906.

53. *Oreospiza chlorura*. GREEN-TAILED TOWHEE.—Common. First seen April 10, 1906.

54. *Zamelodia melanocephala*. BLACK-HEADED GROSBEAK.—Seen only once or twice.

55. *Piranga ludoviciana*. WESTERN TANAGER.—Abundant summer resident. Arrives May 15.

56. *Hirundo erythrogaster*. BARN SWALLOW.—Common at Sparta. Breeds.

57. *Tacycineta thalassina lepida*. VIOLET-GREEN SWALLOW.—Seen but once,—a small flock on June 2.

58. *Bombycilla garrula*. BOHEMIAN WAXWING.—Two specimens secured on March 13, 1906; said to be a fairly common winter visitor.

59. *Vireosylva gilva swainsoni*. WESTERN WARBLING VIREO.—Common summer resident.

60. *Laniivireo solitarius cassini*. CASSIN'S VIREO.—First seen May 6, 1906; common by the 18th, breeds.

61. *Helminthophila rubricapilla gutturalis*. CALAVERAS WARBLER.—Seen but once; took a male July 9, 1906.

62. *Dendroica aestiva*. YELLOW WARBLER.—Common at Sparta, where it breeds.

63. *Dendroica auduboni*. AUDUBON'S WARBLER.—Common; arrives about April 1.

64. *Geothlypis tolmiei*. MACGILLIVRAY'S WARBLER.—Common. First seen May 5. Fresh eggs found June 12, June 25, and July 18, 1906.

65. *Geothlypis trichas occidentalis*. WESTERN YELLOW-THROAT.—Common along the Powder River flats in June, 1906.

66. *Oroscoptes montanus*. SAGE THRASHER.—Common among the sagebrush.

67. *Salpinctes obsoletus*. ROCK WREN.—Common along the bluffs near Powder River, but only seen once in the mountains.

69. *Troglodytes aëdon parkmani*. PARKMAN'S WREN.—Fairly common all summer.

70. *Nannus hiemalis pacificus*. WESTERN WINTER WREN.—Common resident; nested along the creek in moss and upturned roots and stumps. One nest on May 20 had four eggs which the bird promptly deserted after I disturbed her.

71. *Certhia familiaris montana*. ROCKY MOUNTAIN CREEPER.—Fairly common in March and April, but disappeared with the snow.

72. *Sitta carolinensis nelsoni*. ROCKY MOUNTAIN NUTHATCH.—Not common, but a permanent resident.

73. *Sitta canadensis*. RED-BREASTED NUTHATCH.—Common resident.

74. *Sitta pygmæa*. PYGMY NUTHATCH.—Abundant on the high ridges, nesting in dead pine tops.

75. *Penthestes rufescens*. CHESTNUT-BACKED CHICKADEE.—Fairly common; young were secured in July, 1906. I believe this record extends the range of this species somewhat.

76. *Penthestes atricapillus septentrionalis*. LONG-TAILED CHICKADEE.—A single example secured on May 30, 1907.

77. *Penthestes gambeli*. MOUNTAIN CHICKADEE.—Abundant resident; begins nesting early in May.

78. *Regulus calendula*. RUBY-CROWNED KINGLET.—Common summer resident in the deep fir thickets where their sweet song could be heard daily during May and June.

79. *Hylocichla ustulata swainsoni*. OLIVE-BACKED THRUSH.—Specimens sent to the United States National Museum were identified as this species. I know of no other records of *H. u. swainsoni* being taken in Oregon. Common; arrives about May 13; nests in June and July.

80. *Planesticus migratorius propinquus*. WESTERN ROBIN.—Common summer resident.

81. *Ixoreus naevius*. VARIED THRUSH.—Not common; a nest found on May 14, 1907, contained four young. Nest eight feet up in a small fir near a creek.

82. *Sialia mexicana occidentalis*. WESTERN BLUEBIRD.—Common; breeds.

83. *Sialia currucoides*. MOUNTAIN BLUEBIRD.—First seen during a snow storm on March 12, 1906. Breeds at Sparta in boxes built for wrens and swallows.

NESTING OF THE BOHEMIAN WAXWING (*BOMBYCILLA GARRULUS*).

BY RUDOLPH M. ANDERSON.

ALTHOUGH I had occasionally met with this silky-plumaged and erratic wanderer at different times in winter in the northern United States, my first glimpse of the bird in summer was on June 8, 1908. The opportunity was offered while crossing the Mountain Portage, of the Slave River, between Smith's Landing and Fort Smith, on about the sixtieth parallel of north latitude. Here a series of rapids and cascades, extending for sixteen miles, compel passengers and freight for the Northwest Territories to be transported over a road varied with timber, hills, sandy ridges, and muskegs — notorious as one of the worst mosquito-infested localities in the North.

On this particular day, the hot sun kept the mosquitoes down to some extent, so that it was possible at times to dispense with the head-net, that necessary but obscuring hindrance to bird-observation in the North. Although the 'bull-dog' flies (a species of *Tabanus*), fairly swarm along the higher reaches of sandy road, they do not bother the collector very much.

About four miles south of Fort Smith, the road winds along a series of high sandy ridges, from a few hundred yards to half a mile from the Slave River. This area, for about a mile, has not long since been burned over, and is sparsely covered with scattering jack-pines (*Pinus banksiana*), white spruce (*Picea canadensis*) and a very few white poplars (*Populus tremuloides*). The ground is covered with short, scanty grasses and a low-spreading, ground-creeping shrub bearing dry red berries resembling small cranberries. At this place some wood had been cut and corded up in small piles here and there.

While passing this place about noon, I saw two Bohemian Waxwings, and followed one for some time, but did not succeed in securing it. In the afternoon I walked back again and saw about a dozen waxwings, singly and in two's and three's. They appeared to be mating and chased each other about more or less, and the peculiar lisping waxwing whistle was generally kept up. One bird perched upon a horizontal limb, launched forth and captured

a large dragon-fly on the wing, in true flycatcher style, flying to another tree to eat its prey. Three specimens were obtained, one male and two females. The stomach of one bird was filled with the small red ground berries.

The next day, June 9, I passed over the road again on the way to the White Pelican rookery at the Mountain Rapid, and saw several Bohemian Waxwings, at intervals for a mile or two along the "Brûlé," but did not have time to prosecute the search for nests.

June 10 in the afternoon I walked back again from Fort Smith to the locality frequented by the Waxwings. The day was very hot, and mosquitoes were not so numerous as on the two previous days, but sandflies, black-flies, or tiny, stinging gnats were present in swarms, and were very annoying, seriously interfering with observations, as they persisted in flying into one's eyes.

Several Bohemian Waxwings were found, near the same place as before, sometimes perching on the topmost twig of a jack pine or spruce, but usually among the upper branches. They were not in flocks, but singly or in pairs, and I think about seven or eight birds were in the vicinity, although an accurate count was impossible, as the birds were very restless, and flew about a great deal.

Again, I watched a waxwing fly from its perch, catch a large dragon-fly on the wing, fly to another tree, and begin to devour the insect at its leisure. I fired at this bird at rather close range with dust shot, causing it to fly to another tree, still carrying the dragon-fly. Here the bird finished its meal in peace.

About two hours were spent searching for nests in the tall, scattered jack-pines and spruces. Each tree had to be inspected carefully from bottom to top, and I was often deceived by small bunches of dead twigs, needles and moss which collect in all parts of these trees. The lower branches particularly, bear great quantities of fine-fibred, pale tea-green moss, which often hangs in long festoons closely resembling birds' nests. Several times I saw waxwings flying rather anxiously about, but making no noise, contrary to the usual habit of these birds. I finally shot one female, whose under parts had lost many feathers, and whose actions showed that her nest was undoubtedly near by. Soon I saw what appeared to be a nest, a moss-covered bunch near the top of a straight,

slender jack-pine (*Pinus banksiana*), about 45 feet from the ground. The nest, however, was so artfully concealed and draped with mosses that I could not be sure that it really was a nest until I actually peered over the edge of it.

The nest contained six eggs, which proved to be almost fresh; incubation less than one day. Color: ground color, pale bluish tending to ashy, with sparsely scattered small round black spots and obscure pale purplish shell markings sparsely and irregularly scattered over the whole surface, but chiefly on larger end. One egg was much less spotted than the others, the markings almost absent from the larger end. Size (millimetres): 23.5 × 18-23.4 × 18; 24 × 17; 24 × 18; 23.5 × 17.7; 23.5 × 17.7.

The nest measured 6½ inches in outside diameter, and 2½ inside; depth (outside) 3 inches, (inside) 1½ inches; composed externally of small, short, dead pine twigs loosely arranged and partially covered with pale green moss, and small bunches of white cottony vegetable fibres. The nest lining consisted of a few fine grasses, a few bunches of fine wooly black moss, and bunches of the soft white cotton.

The tree containing the nest was at least twenty feet from any other tree and had no limbs for at least twenty feet from the ground. The nest was placed close to the body of the tree and supported by two small nearly horizontal limbs and a few lateral supporting twigs from these. The nest itself was fairly well covered with moss, similar to that upon the branches of the tree, and the dark gray irregular-shaped cones of the Banksian pine, lying closely against the limbs, formed knobby bunches which made the nest appear even more indistinct from the ground. The whole structure was in such a position that it would scarcely be discovered without careful search and the parent birds gave few clues to its whereabouts.

SOME HABITS OF THE ENGLISH SPARROW (*PASSER DOMESTICUS*).¹

BY CHARLES W. TOWNSEND, M. D.

A CERTAIN Spanish proverb advises us in case we "do not get what we like to like what we get." I am doubtful whether my philosophy will ever bring me to the point of liking the English Sparrow, but as most of my life is spent within the confines of brick-lined streets, where the chief and nearly solitary ornithological species is this same English Sparrow, it has seemed to me wise to observe and to jot down my observations on the habits of this much hated, and therefore much neglected bird. I shall not refer here to the large subject of the relations of this alien to our native birds, for of that side of the question much has been written, and this too although my notes abound in such data and hark back to the time when the English Sparrow was only beginning to drive out the Tree Swallow and other box-building birds from our cities. Most of the present day bird students can with difficulty realize that about thirty years ago Tree Swallows were common breeding birds even in our large cities. But I must avoid this sad and irritating side of the subject.

In the description of the habits of passerine birds, the account of their song generally occupies an important part, but in the case of the English Sparrow the song is reduced to the simplest terms and consists merely of a repetition of the call notes. Whether the primitive nature of their song is due to the fact that it has never developed beyond this point, or whether it is a degeneration or reversion from a more evolved song are merely matters of conjecture, but it seems reasonable to suppose that in either case the noise and hubbub of mankind among which the birds live has something to do with its harsh, unmusical character.

That this repetition of the call notes constitutes their song, one cannot doubt who has listened to the jangling racket on a spring morning. This 'chorus' begins from twenty to thirty minutes before sunrise in April, May and June on bright days,—fifteen

¹ Read before the Nuttall Ornithological Club, November 9, 1908.

or twenty minutes later on cloudy days,— and lasts in full volume nearly an hour. A few scattering chirps are first heard from the early ones, but the multitudes on vines and trees and house-tops soon take up the theme, and the din is almost deafening. The chief note is *chis-ick* or *tsee-up* monotonously repeated, with various modifications, for the most part high pitched and ear racking, but occasionally deeper and almost melodious. Certain individuals repeat notes or even series of notes that are not unattractive, and may even be called musical. These are not common but may be heard every spring, and, on mild days, even as early as January. At the height of the morning chorus, for such it must be called, there is at times a distinct rhythm, caused by some of the birds keeping time. This chirping rhythm I have frequently tried to count but generally without success, for each bird appears to chirp manfully on his own hook without regard to time. I have, however, sometimes found its rate to be 60 or 70 times a minute, slowing down to 40 on hot days. In this respect the Sparrow differs directly from the cold blooded insect that sings faster the hotter the weather.

Individual singers may be heard at almost any time during the day in the spring months, but after the morning chorus, scattering chirps, conversational tones and angry scrapping notes are more common, as well as the loud rattling call which seems to be almost entirely limited to the female, although I have occasionally heard it from the male. This rattling call is frequently emitted by the female as she flies to feed her young either in the nest or on the street, as well as when she playfully or in anger flies at her mate. I do not feel sure of the full significance of this rattle and it deserves further study.

An early morning in August in the city lacks this chorus, just as in the country August mornings are as destitute of our native birds' songs as June mornings are full of them, which helps to prove the assumption just made that the House Sparrow is a songster even if a vile and primitive one. Thus in late August the sparrows may be heard to chatter in conversational ways beginning ten or fifteen minutes before sunrise, but there is no rapid repetition of call notes, no chorus, no hint of a song.

As the extermination of this bird appears to be utterly out of the question, our only hope lies in education, for it has been found by

several experimenters that the young English Sparrow separated from his unmusical parents and associated with song birds, readily acquires his foster parents' melody. A few such educated ones in each city might prove to be missionaries in a good cause. Certainly we may hope for this in the millennium! Until that time we can look upon the present infliction of their 'song' as an opportunity to cultivate our philosophy, and to turn deaf ears to it, or to seize with pleasure on the occasional musical notes welcoming the spring.

One of the most noticeable habits of the English Sparrow, is the courting that goes shamelessly on under our very feet. The strut of the male — and he is a handsomely marked bird but woefully smoke begrimed these soft coal days — is always amusing. With flattened back, head held up and tail down, wings out from the body, the tips of the primaries touching or nearly touching the ground, he hops back and forth before the coy female as if on springs. Not one but several dance thus before a lady who barely deigns to look at them, and then only to peck in feigned disgust at the love-lorn suitors. These pecks are often far from love pats. At times she stands in the middle of a ring of males at whom she pecks viciously in turn as they fly by, all chirping excitedly at the top of their lungs. The casual observer might think the lady was being tormented by a crowd of ungallant males, but the opposite is in reality the case for the lady is well pleased and is showing her pretended feminine contempt for the male sex, who on their part are trying their best to attract and charm her. At other times she plants her bill firmly in the head of the suitor, and pecks at him violently from time to time without letting go her hold. I have seen several such one-sided fights, for the oppressed rarely fights back, where the male seemed to be on the verge of exhaustion, lying panting on the ground, but on being disturbed both birds flew off apparently none the worse.

Fights between rival males are also common, and here the birds generally endeavor to fasten their bills into each others heads and necks, and continue the fight until both are exhausted lying on the ground. Peace loving human passers-by generally interrupt these fights, just as they do the fights of street gamins, but the birds generally fly off swearing vigorously as they go, to renew their

fight elsewhere just as do the gamins. In fact there are many points of similarity between the two species.

About a year ago I watched two males in a fierce encounter on the small grass plot in front of my house. One had the other by the bill and held him back downwards on the grass. They were both using their claws vigorously and bracing with their wings. Occasionally they would roll over, or go head over heels. Breaking apart they would fly up at each other like enraged barn-yard cocks. Although I stood within two feet of them, so intent were they that they did not notice me until I made an incautious movement and they fled to fight elsewhere.

A disgraceful fight between two female English Sparrows occurred in front of my house one April day. Catching each other by the bills they pulled and tugged and rolled over on the grass. When they broke away the fight was renewed a few inches above the ground in fighting cock style. Three males appeared, and watched the fight. One, evidently scandalized, endeavored to separate the Amazons by pecking at them, but they paid no attention to him and only after some time flew away, one chasing the other.

The favorite food of the English Sparrow is the semi-digested oats found in horse droppings, and I have noticed him to forsake some raw oats spilt on the ground for the sake of these semi-digested ones. Although scratching would be a useful accomplishment in the acquisition of this his favorite food, he has not learned it like many other sparrows, but he plies his stout bill vigorously like an axe and effectually accomplishes the object. He has, however, learned to use his tail as a prop like a woodpecker and he may often be seen searching for insects in this position on a tree trunk or even on the vertical side of a brick house.

Like many other birds the English Sparrow suffers from hot weather and shows his distress at such times by wide open mouth.

English Sparrows are decidedly social in their habits. For thirty years or more they have been in the habit of roosting at night in the trees of King's Chapel burying-ground in Boston—perhaps they were attracted by the English associations of the place. I have made several observations of this roost. They frequent the place throughout the year but are decidedly less numerous in the spring months and most numerous during the fall and winter.

Thus on November 25, 1905, between 4 and 5 p. m., I estimated that about 3000 sparrows were in this place on five trees. The other two trees were empty. On February 20, 1906, on a mild pleasant day, when the sun set at 5.24 p. m., the roost was studied from the near-by City Hall. The roosting trees seen from above looked as if their limbs had been whitewashed and the ground and grass beneath were similarly affected. The first arrivals appear at 3.45 p. m., about a dozen in all. At 4 the birds are coming singly and in small groups alighting in the trees but frequently changing from place to place, chirping continuously and fighting for positions. At 4.05 a flock of 12 fly swiftly and directly to one tree; 4.10 p. m.: there are now about 150 sparrows present, but new ones are constantly sailing in with wings wide spread from over or between the surrounding high buildings. They fly with astonishing swiftness and directness, projected as it were from space directly into the roost,—is it the city rush and scramble for position? 4.15 p. m. It is now raining birds. I have seen only one alight on a building before entering the roost; they are in too much of a hurry to get there. The trees are a scene of great activity and the noise rises above the roar of the city's streets. The birds are crowding together in the trees, constantly fighting and flying about as they are forced from their perches. At 4.30 the birds are still coming, but by 4.45 there is a noticeable diminution in the numbers of the coming birds and by 5 o'clock the movement has ceased with the exception of a few stragglers. Many are now spreading their wings and tails and composing themselves for sleep. At 5.30 the roost is still noisy but many are fast asleep, and before long all is quiet.

For several weeks before Christmas each year a large department store across the narrow street is brilliantly illuminated by electricity, but the birds sleep quietly notwithstanding the glare and the noise of the traffic. On March 19, 1906, I inspected this roost at 5.45 p. m. during a heavy snowstorm. The birds were as thick as usual but rather lower in the trees and sitting breast to the storm. Although most of them were asleep some were still talkative. On May 11, 1908, I estimated at 6 p. m. that there were perhaps about one tenth as many birds in the roost as in winter. Both males and females were present, the former often strutting in turkey cock attitude and the females picking at them. It is

probable that most of the roost consisted of males, but it was evident that a few unmated females yet remained at this late date.

On August 29, 1908, I again watched the Sparrows enter their sleeping quarters at King's Chapel burying-ground, and by counting the birds as they entered for fifteen minutes at a time at intervals, I was enabled to make a fairly accurate estimate of 3400 birds in the roost. With the exception of a few stragglers they all came in between 4.30 and 5.55 P. M. The sun set at 6.28. Judging from the noise, the number of birds in the roost was considerably less than in winter, so that my previous estimate was probably too low.

On November 26, 1905, I watched the King's Chapel roost wake up and depart about its day's business. All were asleep and quiet until 6 o'clock when the first chirp was heard, while the stars were still shining, and the first movement took place at 6.05, when a sparrow flew from one branch to another. The sleeping ones had their heads depressed in front, or the head turned around with the bill concealed in the feathers of the back. A sudden general chirping begins at 6.07 and a few buzz about from branch to branch. The chirping swells into a continuous volume of sound, not the chorus of the spring, but a confused conversational chirping noise as if all were talking at once. Birds buzz about with rapid wing vibrations, suggestive of hummingbirds. The first one flies off in an unsteady way as if still half asleep at 6.12. The sound grows louder, although the majority still appear to be asleep. Some are stretching their wings and preening their feathers. The stars are nearly gone. At 6.20 no. 2 flies off uncertainly. 6.25. Now there is greater noise and activity. Many are flying about and a dozen or more have left. All awake seem to enjoy spreading their tails. A considerable proportion sleep on through the hub-bub. There is very little fighting compared with the evening. 6.26. Now the birds are leaving constantly. 6.27. They are leaving in bands of 15 or 20 at a time. 6.30 A. M. The stream of outgoers, mostly down Tremont Street to the north, is now continuous and too great to count. The remaining birds are noisy in the extreme, flying about vigorously and filling up the empty trees. 6.35 A. M. It is now broad daylight and the birds are flying off like bees, but more or less in waves. A few still sleep on undisturbed. The sun rose about 6.50 and by that time doubtless all or nearly all of the birds had gone.

Besides the King's Chapel roost there are several other smaller ones that have later been established in Boston, namely, one in the Granery burying-ground, one in some trees on the Common, one in Franklin Square, besides doubtless others. The roost at Franklin Square is within fifty yards of the elevated train and at about the level of the frequently passing trains, yet I have seen the birds sleeping quietly there in the midst of the deafening racket.

In the early days the gathering in King's Chapel burying-ground were viewed with alarm, for it was feared that the imported darlings were about to migrate elsewhere, perhaps to the Mother Country. Alas this migration has never taken place!

THE VIRGINIA AND SORA RAILS NESTING IN NEW YORK CITY.

BY J. A. WEBER.

THE marshes inhabited by the rails are situated at the northern portion of Manhattan Island and extend northward and eastward from the foot of the hill at Fort George (190th Street and Amsterdam Avenue). These marshes formerly lined the shore of the Harlem River, but through street improvements have been separated from the river and cut up into small areas. The water in these marshes no longer rises and falls with the tide and the only connection with the river is through drain pipes under the streets; consequently the water is more or less fresh.

The rails first attracted my attention during the early part of June, 1902, when my brother who had climbed into an oak tree overlooking one of the marshes, shouted to me that he saw some water chickens running about in the swamp. I made a thorough search of the marshes on the 24th of the same month and secured a specimen, which proved to be the Virginia Rail (*Rallus virginianus*). It was the 4th of June, 1905, however, before I discovered any nest and eggs. This nest was found in the cattail marsh

situated on Ninth Avenue between 205th and 206th Streets. The eggs were scattered in and around the nest and had been emptied of their contents by some animal, probably by a muskrat. I found a dead rail in the vicinity but was unable to determine the cause of her death.

On June 1, 1907, I found a Virginia Rail on her nest, incubating ten eggs, in the patch of rushes about half a block south of the Dyckman Street subway station. The bird allowed me to approach within three feet of her, when I flushed her from the nest by a sudden movement on my part to gain a solid footing. She remained in the immediate vicinity of her nest while I adjusted my camera, strutting about with her feathers puffed up and wings spread like a turkey cock, giving her a rather formidable appearance: at the same time she uttered a low grunting sound which I had never heard from a rail before and quite unlike their characteristic notes. The male showed his interest by his sharp *këck-këck-këck* calls, evidently trying to lead me away from the nest.

The nest was placed in the usual position near one of the streamlets which intersect all of these marshes, forming an irregular network, in the center of a circular bunch of growing cattails. It consisted of a mass of cattail blades and stems, placed layer upon layer, the foundation resting on the mud, so that the rim of the nest was 7 inches above the surface of the water. The inside of the nest was rather shallow, $4\frac{1}{2} \times 4\frac{1}{2}$ inches in diameter, and lined with cattail blade chips $\frac{1}{2}$ to 2 inches in length.

I discovered another nest of the Virginia Rail on June 6, 1908, in the small marsh bordering on Dyckman Street, with two baseball fields adjoining it on the east and south. The nest was placed within twenty feet of the street where hundreds of people as well as vehicles pass daily and large crowds often assemble to witness the Speedway trotting races or the baseball games. Yet the little mother rail quietly sat on her ten eggs, apparently unconcerned about the civilization around her. She was fully as tame as the former bird and acted in a similar manner. I tried to photograph her on the nest but she refused to return to the nest while the camera was near it; I had no difficulty however in taking snapshots of her as she crossed and re-crossed the narrow lanes through the cattails made by the ditches of water.

Within an hour after finding the above nest, I discovered a nest of the Sora (*Porzana carolina*), containing 14 eggs. This bird, unlike the Virginia Rail, was very shy, necessitating several visits to the swamp to accurately identify her. Approach the nest ever so stealthily, she would dart from the nest, and go off splashing through the water, before you were within fifteen feet of her, the only indication of her and her mate's presence being a call note at a distance from the nest.

The marsh in which this nest was built is situated on the south side of 207th Street between the foot of the new bridge across the Harlem River at this point and the 207th Street subway station. The marsh is so close to the subway station that some of the passengers noticed and watched me from the station platform while I was floundering about among the rushes. Yet strangely enough the noise of the numerous passing trains did not deter these shy birds from nesting in such close proximity.

The nest of this bird differed in many ways from the Virginia Rails' nests. It was suspended in a clump of cattails; the material composing the nest extended about 5 inches above and below the surface of the water, leaving the bottom of the nest about 11 inches clear of the mud below it. The foundation of the nest looked like a miniature hammock, and the bird probably formed it by simply trampling down the dead lower blades still adhering to the growing cattails. The composition of the nest, like that of the Virginia Rail's, consisted of cattail blades, but the lining of the nest presented a distinct departure, being made of fine marsh grasses in place of the chips of flat cattail blades. The inside of the nest was $3\frac{1}{2} \times 4$ inches in diameter and $2\frac{1}{2}$ inches in depth, and deeply cup-shaped in contrast to the rather flat form of the other bird. It was loosely arched over by the growing rushes surrounding it and concealing the bird so that it was difficult to identify her. A narrow runway of fallen dead cattails led to the nest; this appears to be a characteristic feature of all the nests of this family of birds I have found. The water in this swamp was 16 inches or more in depth throughout, due to a clogging of the drain pipe. I was unable to find any Virginia Rails in this swamp; evidently this depth of water is preferred by the Sora but not by the former bird.

The breast of the Sora is about $1\frac{1}{2}$ inches in diameter and it

seemed wonderful to me how the little bird managed to keep her fourteen comparatively large eggs warm. She succeeded, however, for they were found to be in various stages of advanced incubation. So deeply cup-shaped was the nest that the eggs around the edge were in an almost vertical position, thereby considerably reducing the horizontal area to be covered. Upon a subsequent visit to the nest, two of the eggs were found in the center of the nest lying on top of the others; a habit also shared by the domestic hen of placing one egg in this position. The bird probably shifted the eggs occasionally so as to get the others in this position to give them an extra amount of heat and render their hatching more certain.

Ridgway's 'Manual of the Birds of North America,' states the size of the Sora's eggs as $1.23 \times .89$ inches; the average size of the above set is $1.18 \times .89$ inches, but the loss in size of the individual egg is amply supplied by the larger number of eggs in the clutch, numbering 14 while Ridgway's 'Manual' quotes the number as 9 to 12. The measurements of two sets of Virginia Rail's eggs showed an average of $1.32 \times .98$ and $1.22 \times .92$ inches proving the eggs of this bird to be larger than the Sora's; but the difference in size is not as apparent as the difference in color and the distribution of the markings. The ground color of the Virginia's eggs is cream buff, that of the Sora is much darker, being deep brownish buff. The eggs of both species are abundantly spotted and speckled with chocolate brown and a few purplish gray and greenish spots and specks; but the spots of the Virginia's eggs form a dense cluster around the larger end, while on the Sora's they are evenly distributed over the egg with no tendency to cluster at the larger end.

During the past few years building operations and street improvements have encroached so much on the breeding grounds of the Rails, Red-winged Blackbirds and Meadowlarks, that I fear the breeding of these birds in this locality will soon terminate.

INSTINCTIVE STILLNESS IN BIRDS.

BY WILLIAM PALMER.

"NEARLY all hermits and holy men who live apart from the big cities have the reputation of being able to work miracles with the wild things, but all the miracle lies in keeping still, in never making a hasty movement, and, for a long time, at least, in never looking directly at a visitor."¹

ACCORDING to one's knowledge and experience the subject of mimicry may be divided into a number of divisions but their limits are rather uncertain. In my opinion the dominant psychical feature in perhaps all mimicking birds is stillness in the presence of known or probable danger; and it is also an aid with its near relative, caution or slowness, in aggressive mimicry. The other features of bird economy necessarily involved are always subordinate to these, as will develop later. To give point to these facts the following instances, a few of many, are offered as illustrations.

While walking along a beach one summer a Spotted Sandpiper (*Actitis macularia*) and a single young were noticed some distance ahead. As I approached the place the old bird, with the startled manner characteristic of its kind at such a time, kept well ahead, but I could not find the other. Going back some distance I waited and soon saw it again with its parent. I repeated my quest and again failed to find the youngster. Going back once more and again seeing it rejoin the old bird I slowly moved forward keeping my eyes this time very intently on it and soon picked it up from the sand, an unwilling captive.

I once had considerable experience with the Pribylov Sandpiper (*Arquatella ptilocnemis*). The young could often be seen at a distance, but when approached and squatting it was almost impossible to distinguish them from the tundra vegetation. Finding one on one occasion I wished to photograph it as it lay. I had dropped my basket and camera on first seeing the bird which was not then under the care of its parents. Dropping my cap near the bird I slowly retreated backwards, obtained the camera and slowly returned to the spot, but the bird had moved. Failing to find it

¹ Kipling, in 'The Miracle of Purun Bhaget' (The Second Jungle Book).

and leaving the cap as a center I walked in a wide circle and then began to spiral toward it. Using the utmost carefulness and straining my eyes I found my bird and made the exposure. As in all other cases its colors and markings almost exactly matched the vegetation; it is really a wonderful mimic, and it required very careful work to distinguish it, but once found it seemed more conspicuous, and this is usual in similar cases, for with time our eyes become better accustomed to the contour of the squatting bird.

On the same island, St. Paul, I once stood for a long time knee deep in cold water looking for some young Phalaropes (*Lobipes lobatus*) which I knew were clinging to the scanty grass and, as it proved, not three feet in front of me. Yet a movement on their part would have instantly betrayed them, my eyesight was excellent and I knew what I wanted and expected to find.

These few examples represent a common experience of field naturalists familiar with this group of birds. They are also characteristic of young Terns and Gulls, of Quail and numerous other species, but not always of the adults.

Seeing a Least Bittern (*Ixobrychus exilis*) flying over a marsh one dull afternoon I marked the place, but upon pushing there in my skiff I was utterly unable to locate it. Later I put up another and marking where it had alighted had the greatest difficulty in finding it clinging motionless with bill almost erect, to a stem of wild oats (*Zizania aquatica*).

The following interesting experience occurred in Florida. I had been walking among the pines with my gun and had slowly approached the backwater of the Kissimmee River where the water had overflowed the short grass well back of the usual shoreline. Here I soon noticed a Louisiana Heron (*Hydranassa tricolor ruficollis*) standing in a few inches of water near a small clump of scrub palmettoes (*Sabal* sp.) and at once conceived the idea of trying to find out how near I could get to the bird. Using the clump as a blind I gradually moved to within about sixty feet. Waiting a while to notice the bird and to allay its fears, for it had evidently detected me, I sat down on the grass and slowly worked myself to one side of the clump in full view of the heron and not over forty feet away. Here I sat for some time lounging, first on one side and then on the other, at the same time working myself gradually nearer

to the water, the heron all the time standing upright and immobile with its breast toward me, the neck upstretched and the bill pointed skyward. I could plainly see the irides, but the bird, now about twenty-five feet off, stood absolutely still for perhaps twenty minutes until I arose and then it flew off.

A friend recently told me of a singular and most unusual instance so far as man is concerned. A party of hunters at Catlett's station in King William County, Virginia, had started a Wild Turkey (*Meleagris gallopavo silvestris*) in the woods which flew out over an old field of sage grass (*Andropogon*) and alighted into it. Marking the distance and calling the dogs they worked toward the place and after considerable search failed to find the game until suddenly one of the dogs came to a stand. Even then no turkey was visible and they were about to give up the attempt when one of the hunters who had stood in one place watching the men and dogs, felt his hand touch something. Looking down he was surprised to see the turkey at his feet crouching and motionless with outstretched neck. It surely deserved a better fate than to be promptly seized by the neck.

On the side of Mount Shasta in California on a large fallen tree trunk a party of five saw a Blue-tailed Grouse (*Dendragapus obscurus sierræ*) in a motionless and crouching posture with neck outstretched. It permitted Dr. M. W. Lyon, Jr., and myself to get on the base of the tree and to slowly walk within twelve feet before it suddenly took flight down the mountain side.

Another instance of this kind has been told me by Mr. N. R. Wood. He was in a field watching a hen that had a brood of chickens when an approaching hawk was noticed; uttering her note of alarm the chicks instantly scattered into the surrounding vegetation, except one, which was probably the last to take alarm and judging the danger imminent stiffened at once into the characteristic position. In another case all of a flock acted in a similar manner.

Walking through a field of short grass in Virginia I noticed some distance ahead a covey of half-grown Quail (*Colinus virginianus*). Approaching somewhat carelessly, but with the intention of ascertaining how near I could get to them, I was surprised to find that I could not see the birds. Standing still I slowly scanned the ground over but without success until suddenly I caught the blinking of

an eye. On the instant it seemed that the bird realized that I had seen it for immediately it took flight.

We have a canary, a dark bird with a streaky plumage, that we often allow the freedom of the kitchen and pantry. At first it was greatly averse to being handled but now offers little resistance if caught. It often comes when called yet occasionally it is perverse. At such times when looked for it is generally motionless and will when seen sometimes utter an inquisitive note, but is usually mute. If it happens to be on a dark object, or in the shade it is sometimes overlooked and will not answer, but will allow itself to be picked up. If, however, it is on an object of a light color, or in the light, it acts differently and when approached will suddenly take flight, run off, or hop on to a finger. In its habits it is very unlike the ordinary yellow bird, is very intelligent and seems instinctively to realize its unusual coloration.

On the Potomac River, above the Great Falls in Virginia, I once surprised a female Summer Duck (*Aix sponsa*) with a brood of eight quarter-grown young. In her excitement she fluttered greatly and uttering loud cries of alarm soon made off. Meanwhile the young paddled swiftly to the shore where I saw all land some fifty feet up the stream. I hurried to the spot but failed to see any of them after they had reached the shore.

To surprise a Ruffed Grouse (*Bonasa umbellus*) with little ones is quite an experience in still mimicry. Though the twelve or fifteen young may for a few moments be running in every direction, and knowing that all are within a few feet crouching and quiet, it is a difficult matter to pick up more than one or two, but more probably none. How often one has walked to within a few feet of an unsuspected grouse, or Woodcock (*Philohela minor*), only to have it fly off suddenly, yet one is rarely seen before it starts, and it is exceedingly difficult to find one if it remains quiet even when we know about where it had alighted. Perhaps the best example of this immobility and then sudden flight at the possibly critical moment, at least where man is the intruder, is afforded by the American Bittern (*Botaurus lentiginosus*), as its color and fine shading in its marshy environment with its almost erect motionless attitude is a fair illustration of my subject and suggests at once that the coloration of the bird assumed its present well known distinctive

features because of its association with its present type of environment, habit and protection through its happily mimetic values being the main incentives to the direction of color development during the early formative stages of the species, the unfitted grades of variation being weeded out by absorption into the general mass of the species, or destroyed.

Wounded birds are often hard to find as the experienced are well aware. As a good example I select the following incident told me by Mr. H. S. Barber. His brother had made a long shot at one of three Great Blue Herons (*Ardea herodias*) in a Florida marsh. The ball had broken both wings and the bird dropped helpless. The boys rushed onwards to secure their game but to their great surprise were unable to find it and could not account for its disappearance. Finally one of the boys started to turn over a pile of supposed rubbish with his foot when to their great surprise it proved to be the wounded bird that now tried to make off.

I was hunting turkeys in Virginia. My companion and myself had started out before daylight and had separated in the woods about where we expected the turkeys were roosting. I had slowly walked down a slope in a wide ravine, listening, and lingering for a little more light, and finally leaned against a large tree with my hands in my pockets, gun under my arm and my eyes trying to penetrate the slowly vanishing gloom. I thus stood, still and somewhat chilled, for at least thirty minutes with eyes and ears expectant when behind me I heard the cautious pit-pat of feet on the leaves. Keeping my body nearly in the same place I slowly turned my head, at the same time withdrawing my hands for action. Behind me in full view was the best and most interesting gunning experience of a lifetime, a flock of at least a dozen turkeys, the nearest not over twenty-five feet away, the farthest well within gunshot. But for my next movement I have no doubt that the whole flock would have walked by my motionless figure. In this instance but very little mimicry is involved, the general resemblance of my quiet form to the surrounding tree trunks preventing me from being noticed because of the absence of motion on my part.

Mr. Nelson R. Wood has given me the following instance that illustrates another phase of these quiet moments of bird-life. A gunner in Florida had gone out to hunt Wild Turkeys (*Meleagris*

gallopavo osceola). He was standing in the corner of a fence when a turkey, accompanied by a flock of little ones, jumped through a gap on his right. They slowly advanced toward him and it was only when the old bird was nearly opposite him that he was evidently noticed. Without alarm she continued on her way past, and but a few feet off, until the young had reached the opposite fence when, suddenly uttering her note of alarm, the brood instantly scattered through the rails while the mother bird flew off over them. The man was so astonished at the arrival of the birds, and then at the apparent nonchalance of the mother, that he entirely forgot his object and did not recover his presence of mind until the whir of wings showed him that he had been outwitted.

A friend and myself were recently eating our lunch on a narrow sandy beach of Chesapeake Bay. An adult Spotted Sandpiper soon came quietly toward us picking up food on its way. When about twelve feet off it noticed us for the first time, hesitated and viewed us intently and motionless for what seemed a long period and then retraced its steps for a short distance. Once more it returned, examined the strange coatless and motionless things in its way and then went back, occasionally picking up food, but soon facing us again. A few Turkey Vultures (*Cathartes aura septentrionalis*) had been sailing above the cliffs behind us and once in a while a shadow would pass up or over the beach. As the bird viewed us from its last stand it soon noticed a vulture coming near and instantly turning with its tail toward us, head and bill obliquely pointing to the water and crouching a little, stood as if turned to stone while the shadow passed within a few feet. The whole performance, so near and unusual, was a very pretty and unexpected exhibit of mimicry with its attendant stillness. The color of the bird's back was in perfect harmony with the wet sand and it certainly seemed doubtful that it could have been seen by a predatory enemy except when it was in motion.

Stillness is not a characteristic of birds alone, as the following instance that occurred on St. Paul's Island, Alaska, shows. Wandering over the island on a bright day I had reached the large lake toward Northeast Point and was walking on its narrow beach when I noticed the track of a Blue Fox, and finally caught sight of it as it rounded one of the numerous points jutting out into the

water. Apparently the fox did not notice me for it jogged along easily and I finally lost sight of it when it disturbed a large number of gulls which had been resting on a larger point of sand. When I reached this place all the birds had left and I could see nothing there except, as I thought, two stones. I therefore crossed the sandy triangle at its base and reached the opposite side. Here I was surprised not to see the tracks again and began looking for the fox. It had not passed me and no return tracks were to be seen. I hesitated awhile, looking in every direction, and finally determined to make sure of the 'stones' which were then easily within gunshot. When about thirty feet off the rusty summer-coated fox arose and began running back over his incoming tracks. But for my wonder and then my curiosity I might have missed my specimen. Foxes in out of the way places have been known to play hide and seek, as it were, even behind a plant stalk and to make off when they found that they were discovered. Fawns and young antelopes squat on the ground like young waders, and for the same reason, mimicry and stillness, inability to do otherwise, for movement might attract instant unfavorable attention.

A Gray Squirrel spread and flattened motionless against the trunk of a tulip poplar is effectively a mimic on the irregularly colored gray bark against a flying or stationary hawk and often against a gunner. On the other hand a moving squirrel can be readily located by a perching hawk. That sudden movement causes alarm is shown by the well known fact that weasels, mice, rabbits, and many other species may play about and even cross the feet of a person who remains quiet, but upon moving they rapidly disappear.

A party of Audubon people had started a Henslow Sparrow (*Coturniculus henslowi*) in an old field. It flew to a clump of scanty leaved bushes where about a dozen of us surrounded it. For fully fifteen minutes the party watched it perched motionless about four feet above the ground. It would not fly upwards for the species rarely does except when migrating. It would not fly off on a level at the usual height of its flight for we were in the way. It could not reach the ground as there was not space for its usual downward flight and so it remained perched immobile and but a few feet from the nearest person as long as any cared to stay. In

numerous cases birds when alarmed will fly into trees or bushes and either pass rapidly to the opposite side and thus escape, or imitate the leaves by remaining quiet.

Many more instances of absence of motion at a critical moment might be given, but almost everyone with a wide and diversified experience with birds has had many opportunities of becoming interested in these phases of their life. That the bird does not reason is shown by the fact that it may stiffen into its mimicking position of immobility even when its attitude is incongruously out of place with its surroundings. However, the facts should be studied, not in single instances, but by observing the general habits and the natural economy of the species in its usual environment and in its attitude against its usual enemies. On the whole these occasional motionless postures are distinctly of advantage to the species and thoroughly ingrained into their life, and if at times seemingly fantastic and absurd to us, are really very effective when used against the ordinary and entirely natural causes which influence them. Man with his ideas, practices and weapons is but an artificial product and has had no part in shaping these peculiar habits of bird-life.

When ground birds are approached after a sudden flight they may get up wild, run off rapidly, or remain quiet and are then often extremely difficult to find. Color in woodland has an uncertain and slight value usually because lights and shadows are often extremely complex and broken; while the accidental and complex variation of size and shape of the details of the ground cover is very effective in favor of the hiding, or setting, bird.

Many birds will not eat unless their food is in motion. A motionless insect has little or no attraction whereas movement at once tempts the appetite. Simulation of life by using a wire and a dead mouse will sometimes induce a captive snake to eat. I have seen a mother bird lamenting the dangerous position of its offspring cease in her grief because a tempting morsel by its motion attracted attention. Motion attracts the enemy, stillness does not, unless some other feature, as some defect, or unusual condition of the environment, or view, places the mimic in jeopardy.

It was often an object with me to try to ascertain how close I could get to a bird in the open. I tried many ways and at last

became quite successful. It was found in a large number of cases that by walking in a straight line, slightly crouching and taking short quick steps without wobbling or swaying, it was often possible to get much nearer than by other means. In most cases the bird not noticing or understanding the slight increase in size as I drew nearer, nor being influenced by irregular side motions, would remain perched for quite a while and sometimes appeared interested. In other cases I found that by not walking directly toward a bird but viewing it occasionally out of the corner of my eye, it was possible to approach quite closely and even to walk around it. Confidence and curiosity may be induced by cautious movement so that even a sitting bird can be stroked. With care one can drive flocks of sandpipers along a beach while but a few feet behind them as well as single birds.

It is a rare experience to stalk a Wild Turkey but rarer still to stalk a flock. On one occasion I heard turkeys far off in some rather open woods soon after sunrise and debated with myself the possibility of getting within range. Approaching them, but still some distance away, I took care to move in a straight line while in possible vision. At last I had only to climb one small hill after crossing a flat wet ravine and though I really had but little expectation of working myself near enough for a shot I concluded to attempt it. Long before I had been in sight of the turkeys, as I supposed though I had not seen them, I had dropped on my knees using my left hand as one foot and the gunstock in my right as another and keeping my head down made fair although slow progress. The turkeys were very suspicious, but evidently unwilling to allow such a strange and slow-moving creature to drive them away, so their inquisitiveness, or indecision, influenced them to permit too near an approach.

In Aggressive Mimicry the following will illustrate the importance of stillness and its relative, cautious movement. A heron walking along the water's edge by its motion drives away the minnows swarming in the shallows, but if it stands motionless they slowly return and the bird readily obtains its meal. If its forward movement is slow and stealthy the movements of the fish will correspond, while quicker or uncertain motions cause a different action in the fish than the more effective one. Putting myself in the place of the

heron and remaining still I have found that I could sometimes touch the fish and even have them nibble at my finger or toe, while an unexpected and sudden motion on my part would cause them to rapidly vanish. The cautious movement of the heron inviting confidence is the more readily productive of good results, while it is doubtful if the escaping fish in any degree realize that one of their companions has disappeared. They merely escaped a sudden motion of something larger than themselves, their own memory and knowledge being of the smallest.

Dark-bodied, day-feeding herons obtain their food almost entirely where the fringe of vegetation, sedges, bushes, or more distant tree tops, make a background and prevent the shape of the birds from affecting the skyline as seen by the prey. This is to a much less extent the case with the light-bodied and light-fronted species which are apt to feed largely at a distance from trees and bushes. In this latter phase of aggressive mimicry, whether the prospective victim is fish, reptile, or batrachian, stillness and caution are quite essential and the value of protective and simulative coloring is the same, for light colored birds, when motionless, harmonize with the colors of the sky as seen from the position of the prey. The sharp eyes of the heron search every likely spot; its absence of motion invites confidence, possibly some inclination to move; it has time to examine well, while its colors and markings, as viewed from in front and below, blend perfectly, or at least sufficiently, with its usual background, and an adequate amount of food is secured. The balance of trade is always in favor of the aggressor if his stock of patience is sufficient. The light patches and streaks on the neck front of some herons may be explained as a phase of aggressive mimicry. They serve to break up the contours and colors of the bird and suggest, instinctively, openings and irregularities in the background of vegetation.

Color mimicry would seem to be a station, somewhat different in different species, at which the color development was largely left at a very early period of its life's history. Assuming that the archaic ancestral bird was of a uniform tint with unspecialized feathers it would seem that as the specialization of the feathering developed so the color gradation tints necessarily came into effect, not for mimicry, however, but as a physiological result, the functions,

density, thickness, position, etc., determining. As the developing species or groups broadened out into different environments and thus came into interrelation with varied and numerous factors and enemies those best fitted to escape, however slight the difference, became collectively the progenitors of the mimicking and non-mimicking groups or species of later times. It would seem that the fixation of protective color gradation characters in feathers must have been an early one; in fact there is abundant good reason for believing that bright colors and feather specialization are more advanced conditions and of later development than the sober, simpler tints and feather shapes of mimicking birds. As color, or its absence, when the bird is in motion, is of little or no value in affording protection, it seems evident that the habit of keeping still in the presence of danger, real or fancied, must have been at a very early period instinctive and necessary in the developing groups of nonpredatory birds, an instinct antecedent to the specialization of feathers and probably derived from the weak, unspecialized and evidently reptilian-like ancestors. It may therefore be contended that colors in birds were not determined suddenly but by slow gradational stages as a result of increasing experience and forming habits, character of the food and the slow unconscious fitting to the environments. This instinctive habit of stillness seems to be an absolutely necessary feature of the life of the young of practically all ground birds, but often absent in the adults, as in gulls and terns. A young tern, for instance, instinctively remains motionless on our approach, and we may be sure that its ancestors have always done so also, but if handled for a time, it forgets its simulative caution and does not readapt itself unless released and allowed to escape. Its mimetic instinct becomes to a large extent lost in an unnatural condition of safety and captivity, because its life is spared, which is also an unnatural act.

Nestlings, when their hunger is appeased are quiet and crouching, they instinctively and quickly learn and obey the warning notes of their parents. They are easily aroused by the motion of the arriving parent, and sometimes by that of an intruder, but hunger and its probable alleviation is the cause. Unnecessary motion by the nestling is possibly dangerous to it, it may attract unfortunate attention, consequently we find that the parents are constantly

warning and the young are always being subdued. In this early training we can see the germ of individual mimicry, the necessity of keeping still, motion in the young being only permitted as the parents will. With ground birds the instinctive habit of stillness is stronger and more individual in the young. But with the functional development of the wing growth the tendency to stillness is gradually lost in many species for they can soon escape by active exertions.

Much could be written about the power of the eyes. Sometimes a bird can be easier approached by not looking at it. They seem to know instinctively that they are seen when one looks at them directly, but if they are under the impression that they are unseen one often has a better chance to get near them or to have them approach. As a boy I fooled my first crow, after an experience of repeated failures in attempting to shoot one, by walking by it, gun under my arm and looking everywhere but at the bird, and many instances of the kind might be given.

A protectively colored adult bird endeavors to escape imminent danger from an approaching predatory animal by assuming a quiet and crouching position while it is also watchful. The bird always has it in its power to escape suddenly, a common habit, provided it judges the danger point correctly; but a young wader, for example, has no such chance; it keeps motionless while in danger because that is an inherited characteristic and a result of the long experience of its kind under such circumstances. Its only method and instinctive hope of escape is by keeping still, together with its color resemblance to the surrounding ground, as any movement may be fatal, its enemy being always on the alert. But in rare cases its stillness may be fatal, as is evidenced in the following instance given me by Mr. S. M. Gronberger. With two friends he had landed on a rocky islet in Lake Roxen in Sweden which was inhabited almost solely by the Common Tern (*Sterna hirundo*) and the Common Sandpiper (*Actitis hypoleucus*). Attracted by the numerous adult birds they wandered over the islet and it was only the slippery condition of their shoe soles that showed them that they had unwittingly been crushing many eggs and young birds which up to that time they had not noticed.

A moving predatory bird or mammal has a very slight chance of

seeing a mimicking species unless it moves within its range of vision. Animals have the instinctive faculty of remaining motionless on or about the color that best suits them. Those which remain on areas distinctly of contrasting color with themselves necessarily incur a greater risk of being captured, therefore in the vast majority of present cases the mimicking bird is almost constantly on the ground color that harmonizes with its own coloration, and of which it is a mimic. One of the apparent exceptions to this that I have met with was in finding a young King Rail (*Rallus elegans*) which I captured in grass. Here the blackness of the bird was in great contrast to the green grass but the bird was astray and hungry. In the rails the young are black and at first thought it might seem that they are not protectively colored. As a matter of fact the black color fits in well with their true environment which is generally a blackish wet mud with numerous protective shadows of overhanging vegetation.

The power of mimicry is unconscious in the bird, that is, instinctive, a matter of acquired habit, though one readily gathers the impression that in many cases the bird must know that its coloration has a protective or simulative value. There is nothing protective about a Crow (*Corvus brachyrhynchos*) in its coloring, the bird is always evident, assertive and able to care for itself. A Quail (*Colinus*) is protectively colored and of retiring habit, it has learned as a species to keep still, trusting instinctively in its color similarity to its environment to prevent its enemy from seeing it, but on a closer and more dangerous approach it has other means of probable escape. It is of course impossible to believe that the bird is fully conscious of its simulative powers for, as in the case of a day old wader or tern, it has not had sufficient experience, but the instinct is there and we might for want of a better term call it instinctive reason as distinguished from pure reason which is based on thought and therefore deductive. To give an example. I have been lost in the woods. Realizing that condition I have looked about, instinctively determined, with no thought or reasoning, on a direction and made my way out with no difficulty. Yet on some occasions where the situation was very much more difficult or complex I have pondered and reasoned. It seems reasonable to assume that the bird follows a tendency which has proved successful for many generations of its ancestors. When not successful there is

of course no danger of that experience being transmitted to future generations, consequently stillness and protective mimicry as we see them exhibited is a record of innumerable successes only. Hence the habit once acquired in a very slight degree has, evidently because of its invariable success, been transmitted in a slowly intensifying degree and as a valuable attribute of nonpredatory forms to the descendants as we know them. Mimicry we may say is the result as well as the cause of the survival of the fittest, the failures having been eliminated.

Protective mimicry of the kind here considered, in combination with stillness, is an epitome of weakness and, even in this sense, the result as well as the cause. It is absolutely necessary for the preservation of many of the weaker and more defenceless species. It illustrates dread, lack of combativeness and aggressiveness and inability when exposed to danger to do much else of advantage. Mimicking species are usually quite common and, as we often speak of it, tame, and they propagate rapidly. On the other hand their predatory enemies have also advanced in their mimetic tendencies, usually aggressive.

It may be noted here that the parents in many cases, especially among ground species, successfully attract the attention of the marauder by feigning lameness and then using their power of flight to escape the deluded enemy. In perhaps all cases the warning cry of the parent bird is sufficient to functionize the, until then, latent mimetic propensity to stillness of its young.

In nonpredatory birds in which no simulative mimicry is evident, or very slight, the first law of preservation is unquestionably flight; they escape, or endeavor to do so, at the first indication of danger: while in birds whose colors and habits are in any way simulative and therefore entirely or largely protective, the first law of preservation is stillness even when there is great danger of being captured.

The point that I have here endeavored to emphasize especially is that protective resemblance (environmental mimicry), as to color, markings and shadings, is of little value generally unless it is combined with one other feature, the dominant factor, stillness.

A REPRINT OF THE ORNITHOLOGICAL WRITINGS
OF C. S. RAFINESQUE.

PART I.

BY CHARLES W. RICHMOND.

IT has occurred to me that a reprint of the scattered and always more or less scarce ornithological writings of Rafinesque might serve not only to fill space, but prove of real value to the many students who cannot easily consult the originals. The publications of this eccentric author covered a period of nearly forty years of his truly checkered career¹ from the time of his first landing in Philadelphia, in 1802, at the age of eighteen, to the time of his death, in the same city, in 1840. During this period he issued many independent tracts, and wrote papers for magazines and journals edited by him. The pamphlets were almost invariably printed for the author, and sold or distributed exclusively by him. They covered nearly every conceivable subject,² and are, for the most part, very scarce. One rarely finds them quoted in the old book catalogues, and few libraries appear to possess even a tolerably complete set of them. Several of the publications of this author contain bird matter, and it has long been my wish to see these fragments gathered together in some convenient medium, and made generally accessible to those who have occasion to consult them. Unfortunately, the opportunity to reprint this Rafinesque material comes at a time when I am unable to take up the items chronologic-

¹ Almost every event in Rafinesque's life appears to have been out of the ordinary. He was born near Constantinople, Oct. 22, 1783, and passed his early years chiefly in France and Italy, but visited Philadelphia in 1802, where he remained three years. He then became a resident of Sicily, living there until July, 1815, when he again sailed for the United States. After a stormy voyage of nearly four months, his vessel was wrecked off Long Island Sound, and he landed without property, books, or collections. After a long series of ups and downs, usually the latter, he finally drifted to Philadelphia, where he died in great poverty, in a garret of a house on Race Street, some time in September, 1840. Those who wish to follow in detail the career of this strange genius, should consult the 'Life and writings of Rafinesque,' by R. Ellsworth Call (Publication No. 10 of the Filson Club, Louisville), 1895, and Rafinesque's own account of his 'Life of Travels and Researches in North America and the South of Europe,' 1836.

² 'Thoughts on Atmospheric Dust,' 'On the different Lightnings observed in the Western States,' 'On the salivation of Horses,' 'On the oil of Pumpkin seeds,' 'Enquiries on the Galaxy or Milky-Way,' 'Genius and Spirit of the Hebrew Bible,' 'Pleasures and duties of Wealth,' 'American Manual of the Grape vines and the art of making Wine,' and 'Safe Banking, including the principles of Wealth' are the titles of some of them!

ally, so, instead of beginning with his first contribution, published in 1803, I shall have to let the bird portion of his 'Analyse' suffice for this number.

The 'Analyse' was issued some time between April¹ and July, 1815, and in all probability very few copies were sent out to prominent naturalists and correspondents before he sailed for America on the 21st of July. The remainder of the edition, together with all of his collections, books, and personal belongings, were lost in the wreck of the vessel on which he had taken passage. In his 'Circular Address on Botany and Zoölogy,'² published in the following year, he says it was "published in Palermo in the early part of 1815." In the same 'Circular,' explanatory of the scope of the 'Analyse,' he writes: "This work is the outline of a larger one on the plan of the *Systema Naturae* of Linneus, which will be gradually undertaken at a future period. I have endeavoured to trace in it a new general and natural method, for the study of nature, animals and plants. In dividing these in ten classes each, I have introduced a peculiar and complete nomenclature for the classes, orders and families of organised bodies, giving each a substantive Latin name: a great number of new genera are likewise proposed. A second edition of this work will probably be published within a few years in English." Had his plans been fully carried out, Rafinesque's names would be much better known than they are at the present day, and our nomenclature would bristle with Rafinesquian genera, since he showed a discrimination of generic groups far in advance of his time. The fact remains, however, that in the present work he merely indicated these new generic names (with a few exceptions) as *nomina nuda*, and never afterwards referred to them.

The 'Analyse' was originally issued in brown paper covers, as is shown by the copy formerly in the library of the Rev. Manasseh Cutler, one of Rafinesque's American correspondents, and now in the Library of Congress. The copy from which the present reprint is made is in my possession, and has the name "G. Cuvier" stamped upon its title page.

¹ It is my impression that I have seen somewhere in Rafinesque's writings a statement that the manuscript of the 'Analyse' was completed in April, but I cannot now verify it.

² Reprinted in Oken's *Isis*, 1819, in 'Litterarischer Anzeiger Nos. XV and XVI, following Heft 8.

ANALYSE | DE LA NATURE | OU | TABLEAU DE L'UNIVERS | ET | DES CORPS ORGANISÉS | ——— | PAR C. S. RAFINESQUE | De l'Institut des Sciences naturelles de Naples, et | de la Société Italienne des Sciences et des arts. | ———.○.○..○..○.○.—— | *La Nature est mon guide, et Linnéus mon maître.* | ———.○.○..○..○.○.—— | PALERME | 1815 | ++++++ | Aux dépens de l'Auteur. | — 8°, pp. 224.

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IV. 2. *Classe. ORNITHIA. Les Oiseaux.*

Les Oiseaux composent une Classe très-distincte et isolée d'Animaux vertèbrés, car ils sont les seuls qui ayent un corps couvert de plumes, et muni de deux ailes emplumées et empennées: tous leurs autres caractères, ne sont plus exclusifs; mais communs avec quelqu'autres animaux vertèbrés.

Ils different en outre des Mammifères par leur génération ovipare, c'est-à dire que leurs femelles pondent des œufs couverts d'une enveloppe calcaire, et renfermant des germes qui se développent par l'incubation; produisant des jeunes oiseaux, qui n'ont pas besoin de lait pour se nourrir: ainsi ces animaux sont dépourvus de mamelles, et ces organes n'existent plus dans aucune classe.

Ces Animaux ont la bouche dépourvue de dents, de mâchoires et de lèvres, et conformée en un bec consistant en deux mandibules cornées posées l'une sur l'autre et dont la supérieure porte les narines; leur tête offre quelquefois des crêtes, des huppes ou des places déplumées: leur corps pose sur deux membres postérieurs (les antérieurs étant changés en ailes) dont les jambes sont *scutipèdes* lorsqu'elles sont couvertes d'écaillles semi-circulaires, ou *rétipèdes* lorsqu'elles sont recouvertes de petites écaillles en réseau, *plumipèdes* lorsqu'elles sont couvertes de plumes ou duvet, au moins jusqu'au ta-

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lon, et *nudipèdes* lorsque les plumes n'atteignent pas le talon. Les pieds sont divisés en doigts toujours munis d'ongles et au nombre de 2 à 4, dont 2 ou 3 situés antérieurement, et souvent 1 ou deux postérieurement: ils se nomment *palmés* lorsque des membranes les unissent, *demi-palmés* quand'elles n'unissent que leurs bases, *soudés* quand ils sont plus ou moins réunis entr'eux, et *libres* quand ils sont entièrement divisés. Ils n'ont qu'un orifice excrémental et générateur ou cloaque; et ils ont presque toujours une queue composée de longues pennes. Les pennes ne diffèrent des plumes que par une majeure dimension.

A l'égard de leur organisation interne, elle est semblable à celles des Mammifères, ayant comme eux le cœur à deux ventricules et le sang chaud, un cerveau remplissant la cavité du crâne et des nerfs aboutissant à une moelle épinière; mais ils ont les poumons adhérens et percés, sans diaphragme dans la cavité pectorale, et ils sont dénudés de vessie urinaire.

Leur intelligence est inférieure à celle des Mammifères; mais leur voix est souvent plus variée, et ne la cède qu'à celle de l'homme, elle se modifie en diff'rens cris, siflements, roucoulements chants, ramages.....

Ces Animaux n'avaient été classés que systématiquement avant Duménil, il est le seul qui ait essayé de les disposer par familles, et nonobstant les travaux de Linnéus, Brisson, Latham, Scopoli, Lacepède, Daudin...: sur leurs Genres, il m'a fallu les refondre presqu'en entier, pour les disposer et classer convenablement selon leurs rapports naturels. J'en commencerai la série par la famille des *Psittacins*, cette famille méritant d'occuper cette première place par son intelligence su-

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périeure, ses facultés et ses mœurs, ce qui l'assimile à la famille des *Singes* parmi les Mammifères, laquelle y serait la première si l'Homme n'avait la préscéance: des Ornithologistes ont cru qu'il convenait d'attribuer la préscéance parmi les Orseaux à la puissance (Linnéus, Latham, Daudin, Duméril) et ils l'ont accordée aux *Rapaces*, d'autres à la grandeur tel que Schœffer....et ils ont placé l'Autruche à leur tête; mais autant vaudrait commencer la série des Mammifères par le Lion, l'Eléphant ou la Baleine! ainsi j'adopte l'opinion de Lacepède, qui accorde cette préscéance à l'intelligence.

TABLEAU DES ORDRES.

1. Sous-classe. PLUMIPEDIA. Les PLUMIPÈDES. Jambes plumipèdes, couvertes de plumes jusqu'au talon et quelquefois jusqu'aux doigts, pieds ordinairement scutipèdes, plus rarement retipèdes: quelquefois 2 doigts postérieurs, les antérieurs jamais entièrement palmés, ni très-longs quand le bec l'est aussi.

I. Ordre. SCANSORIPEDIA. Les SCANSORI-PÈDES. Pieds communément tetractyles, quelquefois tridactyles, dont 2 doigts libres antérieurs, et 1 ou 2 postérieurs.

II. Ordre GRESSORIPEDIA. Les GRESSORI-PÈDES. Pieds communément 4-dactyles, rarement 3-dactyles, dont 2 ou 3 doigts antérieurs entièrement soudés, et un seul postérieur.

III. Ordre. SEDILIPEDIA. Les SEDILIPÈDES. Pieds communément 4-dactyles, rarement 3-dactyles, dont 3 ou 4 doigts antérieurs, aucun desquels n'est entièrement soudé, et 1 ou aucun postérieur.

2. Sous-classe. NUDIPEDIA. Les NUDIPÈDES.

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Jambes nudipèdes, nues au dessus du talon, pieds ordinairement rétipèdes rarement scutipèdes, jamais 2 doigts postérieurs, les antérieurs jamais entièrement palmés, quelquefois très-longs ainsi que le bec, ou bordés par des membranes.

IV. Ordre. CURSORIPEDIA. Les CURSORI-PÈDES. Pieds à 2, 3, ou quatre doigts, dont 2 ou 3 sont antérieurs et sans membranes à leur base ni bordure, 1 ou aucun postérieur.

V. Ordre. VADIPEDIA. Les VADIPÈDES. Pieds tridactyles, ou 4-dactyles, 3 doigts antérieurs bordés par des membranes 1 ou aucun postérieur.

3. Sous-classe. REMIPEDIA. Les REMIPÈDES. Jambes un peu nudipèdes, ou dénués de plumes sur le talon; pieds rétipèdes, quelquefois 4 doigts antérieurs, tous les doigts antérieurs palmés ou réunis par des larges membranes atteignant ordinairement jusqu'aux ongles.

VII. Ordre. PALMIPEDIA. Les PALMIPÈDES. Pieds à 3 doigts antérieurs palmés, 1 postérieur libre ou aucun.

VIII. Ordre. FLABELLIPIEDIA. Les FLABELLIPÈDES. Pieds à 4 doigts antérieurs palmés, aucun postérieur.

TABLEAU DES FAMILLES ET DES GENRES.

I. O. SCANSORIPEDIA. Les Scansoripèdes.

1. Sous-ordre. ADUNCIROSTRIA. Les *Aduncirostres*. Bec crochu.

1. Famille. PSITTACEA. Les *Psittacins*. Bec à mandibule supérieure convexe très-crochue mobile; langue charnue: pieds rétipèdes.

1. Sous-famille. PLUMIGENIA. Les *Plumigènes*. Joues emplumées. 1. *Psittacus* L. 2. *Catacus* R. *Cacatoes* Dum. 3. *Arimanus*. R. 4. *Cephalomus* R. 5. *Protalmus* R.

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2. Sous-famille. NUDIGENIA. Les *Nudigènes*. Joues nues. G. 6. *Paracus* R. *Ara* Lac. 7. *Maracanus* R. 8. *Glossiphus* R.

2. Sous-Ordre. CURVIROSTRIA. Les *Curvirostres*. Bec plus ou moins courbé, ou dentelé: pieds presque toujours scutipèdes.

2. Famille. IDORAMPHIA. Les *Idoramphes*. Bec échantré vers son extrémité, quelquefois doublément; jamais énorme, ni légers ni serreté. G. 1 *Rincoptyx* R. 2. *Bucco* L. 3. *Tamatia* R. sp. do. 4. *Ramphisma* R. sp. do. 5. *Macropogon* R. sp. do.

3. Famille. CENORAMPHIA. Les *Cenoramphes*. Bec énorme et léger, ou serreté.

1. Sous-famille. TURACEA. Les *Touraciens*. Bec serreté; mais proportionné. G. 1. *Turacus* Lac. 1. *Curucus* R. 3. *Musophaga* Lath. 4. *Balitus* R.

2. Sous-famille. PRIONAMPHIA. Les *Prionamphes*. Bec grand et serreté. G. 5. *Ramphastus* L. 6. *Cenoramphus* R. sp. do.

3. Sous-famille. MEGAMPHIA. Les *Mégamphes*. Bec grand non serreté. G. 7. *Aracarius* R. 8. *Scythrops* Lath.

4. Famille. ISORAMPHIA. Les *Isoramphes*. Bec proportionné, ni échantré ni serreté.

1. Sous-famille. CRUPHORINIA. Les *Cruphorins*. Narines recouvertes de plumes ou de poils. G. 1. *Crotophagus* L. 2. *Trogon* L. 3. *Quaxotus* R. 4. *Meliphagus* R. 3. *Cephalax*. R.

2. Sous-famille. RIMNIA. Les *Rimniens*. Narines nues. 6. *Cuculus* L. 7. *Edolius* R. sp. do. 8. *Morocus* R. sp. do. 9. *Ramphimatus* R. sp. do. 10. *Huhus* L. sp. do. 11. *Atinganus* R. sp. do. 12. *Cuaris* R. sp. do. 13. *Diploxus* R. sp. do. 14. *Calliptera* R.

3. Sous-ordre. CUNEIROSTRIA. Les *Cuneirostres*. Bec droit, jamais serreté, ordinairement cuneiforme; pieds scutipèdes.

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5. Famille. SPHENORAMPHIA. Les *Sphenoramphe*s. Bec pointu, souvent cuneiforme et anguleux. G. 1. *Picus* L. 2. *Dinopium* R. *Picoides* Lac. 3. *Yunx* L. 4. *Galbula* L.

II. O. GRESSORIPEDIA. Les Gressoripèdes.

6. Famille. PLATYPODIA. Les *Platypodes*. Bec droit ni dentelé ni cornu.

1. Sous-famille. ALCEDIA. Les *Alcédiens*. Bec comprimé ou non déprimé. G. 1. *Alcedo* L. 2. *Alcyon* R. sp. do. 3. *Ispida* R. sp. do. 4. *Kerytus* R. sp. do. 5. *Ceyx* Lac.

2. Sous-famille. PLATAMPHIA. Les *Platamphes*. Bec déprimé. G. 6. *Todus* L. 7. *Platamphus* R. sp. do. 8. *Oxamphus* R.

7. Famille. CORTAMPHIA. Les *Cortamphes*. Bec courbé, ni dentelé ni cornu.

1. Sous-famille. PIPRARIA. Les *Pipracés*. Bec court et crochu. G. 1. *Pipra* L. 2. *Manacus* Bris. 3. *Antolta* R. sp. do.

2. Sous-famille. MEROPIA. Les *Méropiens*. Bec allongé et grêle. G. 4. *Merops* L. 5. *Phlorus* R. sp. do. 6. *Chadirus* R. sp. do. 7. *Patricus* R. sp. do. 7. *Ceratops* R. sp. do. 7. *Dicreadium* R. sp. do.

8. Famille. CERODONA. Les *Cérodones*. Bec cornu ou dentelé.

1. Sous-famille. DIPLAMPHA. *Diplamphus*. Bec non dentelé. G. 1. *Ramphanodus* R. 2. *Rincortus* R. 3. *Calopus* R.

2. Sous-famille. BUCERONIA. Les *Bucériens*. Bec cornu et dentelé. G. 4. *Buceros* L. 5. *Diramphus* R. sp. do. 6. *Pogophthalmus* R. sp. do. 9. *Ramphalax* R. sp. do. 8. *Dactalum?* R. sp. do. 7. *Albagum* R. sp. do.

3. Sous-famille. ACERAMPHA. Les *Acéramphes*.

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Bec dentelé et sans cornes G. 10. *Gingala* R. 11. *Momotus* Lac.

III. O. SEDILIPEDIA. Les Sédilipèdes.

1. Sous-ordre. ELTREMIA. Les *Eltrémiens*. Pieds scutipèdes ou annelés, à 2 ou 3 doigts antérieurs soudés à leur base.

9. Famille. GLYPHORAMPHYA. Les *Glyphoramphe*s. Bec à mandibule supérieure échancrée ou dentée, non subulé.

1. Sous-famille. OLYPHIA. Les *Polyphe*s. Bec à plusieurs échancrures ou denté. G. 1. *Phytotoma* L. 2. *Nucifraga* R. 3. *Collurio* R.

2. Sous-famille. LANIDIA. Les *Lanidiens*. Bec non comprimé, ni déprimé G. 4. *Lanius* 5. *Vibranius* R. sp. do. 6. *Drongus* R. sp. do. 7. *Glandarius* R. 8. *Merulus* R. 9. *Tanagra* L. 10. *Strepera* R. 11. *Malimbus* R. 12. *Argyramphus* R. 13. *Sideropis* R. 14. *Cossyphus* R. 15. *Derimanus* R. 16. *Copiscus* R. 17. *Cepsua* R. 18. *Ixosorus*. 19. *Lepageus* R. 20. *Siopornis* R.

3. Sous-famille. RAMPHOMALIA. Les *Ramphomales*. Bec déprime. G. 21. *Muscicapa* L. 22. *Muscivora* R. 23. *Tyrannus* R. 24. *Rincopogon* R. 25. *Ampelis* L. 26. *Cotinga* R. 27. *Averanus* R. 28. *Platorincus* R.

4. Sous-famille. TURDINIA. Les *Turdiens*. Bec comprimé. 29. *Turdus* L. 30. *Myrmisus* R. 31. *Manucodus* R.

10. Famille. CONORAMPHIA. Les *Conirostres*. Bec sans échancrures, plus ou moins conique.

1. Sous-famille. CORACINIA. *Coraces*. Bec comprimé. G. 1. *Coracias* L. 2. *Becardia* R. 3. *Go-notrimphus* R. 4. *Paradisea*. L. 5. *Nemoderus* R. L. 6. *Caryocactus* R. 7. *Cinclus* R. 8. *Corvus* L.

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9. *Kinkus* R. 10. *Corbivus* R. 11. *Cravus* R. 12. *Gracula* L. 13. *Mainatus* R. 14. *Athsis* R. 15. *Mesorina* R. 16. *Cepharcus* R. 17. *Gymnoderus* Geof. 18. *Gymnocephalus* Geof. 19. *Cephalopterus* Geof.

2. Sous-famille. **STURNIDIA.** Les *Sturniens*.
Bec allongé, non comprimé. 20. *Glaucopis* L. 21. *Buphaga* L. 22. *Oriolus* L. 23. *Sturnus* L. *Quiscalis* R. 24. *Calreas* R. 25. *Icterus* Daud. 26. *Cacicus* Daud. 27. *Xanthornus* R. 28. *Cinclus* R.

3. Sous-famille. **PASSERNIA.** Les *Passeraux*.
Bec vraiment conique, non comprimé. G. 29. *Colius* L. 30. *Pyrrhula* R. 28. *Loxia* L. 31. *Crucirostra* Daud. 32. *Passer* R. 33. *Fringilla* L. 34. *Sizeris* R. 35. *Emberiza* L. 36. *Psitamphus* R. 37. *Bengalis* R. 38. *Calandra* R.

11. Famille. **LEPTORAMPHIA.** Les *Leptoramphes*.
Bec subulé ou menu, et très-long, rarement échantré.

1. Sous-famille. **RAPHIORAMPHIA.** Les *Raphioramphes*.
Bec droit. G. 1. *Parus* L. 2. *Igithalus* R. 3. *Alauda* L. 4. *Psoridus* R. *Sylvia* Lath. 6. *Motacilla* L. 7. *Oîtrus* R. 8. *Otimus* R. 9. *Cripolus* R. 10. *Sittella* R. *Sitta* L. 11. *Baristus* R. 12. *Talapius* R. 13. *Polytmus* Bris. 14. *Mellisuga* R.

2. Sous-famille. **TOXORAMPHIA.** Les *Toxoramphes*.
Bec courbé ou arqué. G. 15. *Trochilus*. L. 16. *Certhia* L. 17. *Sovimanga*. R. 18. *Heorotarius* R. 19. *Guitus* R. 20. *Mactylus* R. 21. *Promerops* L. 22. *Upupa* L.

2. Sous-Ordre. **FISSIDACTYLA.** Les *Fissidactyles*.
Pieds scutipèdes à doigts antièrement divisés, sans membranes, ni soudés.

12. Famille. **BREVIPEDIA.** Les *Brevipèdes*.
Bec large et plat à la base; pieds courts.

1. Sous-famille. **HIRUNDIA.** Les *Hirundiens*.

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3. doigts antérieurs, 1 postérieur G. 1. *Hirundo* L.
2. *Caprimulgus* L. 3. *Agotilax* R. 4. *Ibijus* R. 5. *Drepanis* R.
2. Sous-famille. PREHENSIPEDIA. Les *Préhensipèdes*. 4. Doigts antérieurs, aucun postérieur. G. 6. *Brachopus* R.
13. Famille. PERISTERIA. Les *Colombins*.
Bec non aplati, pieds proportionnés. G. 1. *Columba* L. 2. *Rulula* R. sp. do. 3. *Myriphaga* R. sp. do.
3. Sous-ordre. MESONDRIA. Les *Mèsondres*. Pieds retipèdes à deux ou trois doigts antérieurs, réunis à leur base par des courtes membranes.
14. Famille, RAPACEA. Les *Rapaces*. Pieds à deux doigts réunis par des membranes; bec très-crochu.
 1. Sous-famille. ORNYCTIA. Les *Ornyctiens*. Yeux dirigés en avant. G. 1. *Strix* L. 2. *Bacamus* R. 3. *Pteropogon* R. sp. do. 4. *Bubotus* R. *Bubo* Dum. 5. *Surnia* Dum.
 2. Sous-famille. CRUPHODERIA. Les *Plumicolles*. Yeux latéraux, tête et cou emplumés. G. 6. *Falco* L. 7. *Milvus* R. 8. *Phenes* R. 9. *Idoplus* R. 10. *Tanasus* R. 11. *Gypaetus* Lac. 22. *Aquila* Bris.
 3. Sous-famille. PTILODERIA. Les *Nudicolles*. Yeux latéraux, tête ou cou nus. G. 13. *Gymnasa* R. 14. *Plancus* R. 15. *Derotis* R. 16. *Pernopterus* R. 17. *Vultur* L. 18. *Sarcoramphus* Dum.
15. Famille. GALLINACEA. Les *Gallinacés*. Les 3. doigts antérieurs réunis à leur base par des membranes.
 1. Sous-famille. ALECTRIA. Les *Alectriens*. Quelque partie de la tête nue. G. 1. *Gallus* R. 2. *Phasianus* L. 3. *Argus* R. 4. *Tetrao* L. 5. *Perdix* Lac. 6. *Turnix* R. *Tridactilis* Lac. 7. *Tinamus* Lac. 8. *Meleagris* L. 9. *Ganix* R. *Guan* Lac.
 2. Sous-famille. CRAXIA. Les *Craxiens*. Front

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cére ou osseux. G. 10. *Crax* L. 11. *Aetopsis* R. 12. *Numida*.

3. Sous-famille. PAVOSIA. Les *Pavosiens*. Tête et front emplumés G. 13. *Menura* Lath. 14. *Pavo* L. 15. *Penelope*.

IV. O. CURSORIPEDIA. Les Cursoripèdes.

16. Famille. BRACHYPTERIA. Les *Brachyptères*. Ailes courtes et impropres pour le vol. G. 1. *Struthio* L. 2. *Tuyus* R. *Rhea* L. 3. *Casearius* Bris. 4. *Odopus* R. 5. *Didus* L.

17. Famille. SCOLOPACEA. Les *Scolopacés*. Ailes propres au vol.

1. Sous-famille. OTIDIA. Les *Otidés*. Bec crochu ou courbé. G. 1. *Otidus* R. *Otis* L. 2. *Psophia* L. 3. *Palamedea* L. 4. *Serpentarius* Lath. 5. *Cariama* R. 6. *Glareola* L. 7. *Chionis* Forster. *Vaginalis* Lath. 8. *Chavaria* R.

2. Sous-famille. RALLIA. Les *Ralliens*. Bec droit allongé. G. 9. *Jacana* R. *Parra* L. 10. *Scolopax* L. 11. *Rallus* L. 12. *Porphyrio* Bris.

V. O. VADIPEDIA. Les Vadipèdes.

18. Famille. LATIROSTRIA. Les *Latirostres*. Bec large ou ouvert, doigts non bordés.

1. Sous-famille. HANTIROSTRIA. Les *Hantirostres*. Bec ouvert G. 1. *Empharis* L. *Hians*. Dum. 2. *Odorincus* R.

2. Sous-famille. SPATULACEA. Les *Spatulacés*. Bec non ouvert. G. 3. *Platalea* L. 4. *Cancroma* L.

19. Famille. FALCIROSTRIA. Les *Falcirostres*. Bec étroit et courbé, doigts non bordés.

1. Sous-famille. EPITOXIA. Les *Epitoxes*. Bec

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courbé en dessus. G. 1. *Mycteria*. L. 2. *Bar-gea* R. 3. *Totanus*.

2. Sous-famille. HYPOTOXIA. Les *Hypotoxes*.
Bec courbé en dessus ou en bas. G. 4. *Tantalus*
L. 5. *Dermodera* R. 6. *Macrotarsus* Lac. 7. *Nu-menius* Scop. 8. *Curlirius* R.

20. Famille. GRALLEA. Les *Echassiers*.
Bec étroit et droit, doigts non bordés.

1. Sous-famille. TRINGARIA. Les *Tringacés*. Bec non conformé en couteau. G. 1. *Tringa* L. 2. *Charadrius* L. 3. *Bynamphus* R. 4. *Calidris* R. 5. *Cursorius* Lath. 6. *Hæmatopus* L. 7. *Himantopus* R. 8. *Ochropus* R. 9. *Hemondra* R. 10. *Vanellus* R. 11. *Ortigum* R. 12. *Dactemia* R. 13. *Hydro-sora* R. 14. *Oedinecmus* R.

2. Sous-famille. CULTRIROSTRIA. Les *Cultri-rostres*. Bec conformé en couteau, ou très-comprimé. G. 15. *Ardea* L. 16. *Ciconia* Lac. 17. *Grus* Lac. 18. *Nycticorax* R. 19. *Helias* R. 20. *Blarga* R. 21. *Umbretta* R. 22. *Balearius* R.

21. Famille. PINNIPEDIA. Les *Pinnipèdes*. Doigts bordés par des membranes souvent lobées. G. 1. *Fulica* L. 2. *Phalaropus* Lac. 3. *Gallinula* Bris. 4. *Podiceps* Lath.

VI. O. PALMIPEDIA. Les *Palmipèdes*.

22. Famille. CLUNIPEDIA. Les *Clunipèdes*.

Jambes situées sous le croupion; bec non serreté.

1. Sous-famille. BREVIPENNA. Les *Plongeurs*. Ailes courtes; mais propres au vol. G. 1. *Co-lymbus* L. 2. *Urinator* Lath.

2. Sous-famille. APTERINIA. Les *Aptériens*. Ailes très-courtes, souvent sans plumes et impro-
pres au vol. G. 3. *Alca* L. 4. *Pinguinus* R. *Pinguin* Lac. 5. *Aptenodytes* L. 6. *Spheniscus* R. sp. do.

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23. Famille. SERRIROSTRIA. Les *Serrirostres*. Bec serreté: jambes souvent situées en arrière.

1. Sous-famille. LOPHALIA. Les *Lophaliens*. Bec large, des crêtes ou parties nues sur la tête.
G. 1. *Cygnus* L. 2. *Sarcopogon* R. 3. *Lophalus*.
R. 4. *Epirincus* R. 5. *Hemniphas* R. 6. *Pleptera*
R. 7. *Nessarius* R.

2. Sous-famille. ANSERINIA. Les *Ansériens*. Bec large, sans crêtes ni places nues sur la tête.
G. 8. *Anseria* R. 9. *Anassus* R. *Anas* L. 10.
Camploris R. 11. *Solmorincus* R.

3. Sous-famille. MERGIDIA. Les *Mergiens*. Bec étroit. G. 12. *Mergus* L. 13. *Priamphus* R. *Prion*
Lac. 14. *Phenicopterus* L.

24. Famille. MESOPODIA. Les *Mésopodes*.
Bec non serreté, pieds sous le ventre.

1. Sous-famille. PETRELIA. Les *Pétréliens*.
Bec courbé ou crochu. G. 2. *Recurvirostra* L. 2.
Diomedea L. 3. *Onocrotalus* R. *Pelecanoides* Lac. 4.
Procellaria L. 5. *Puffinus* R. sp. do. 6. *Merotias*
R. 7. *Labbus* R.

2. Sous-famille. LARIDIA. Les *Laridiens*. Bec droit et non crochu. G. 8. *Larus* L. 9. *Sterna*
L. 10. *Nodinus* R. sp. do. 11. *Rhynchos* L.

VIII. O. FLABELLIPIEDIA. Les *Flabelli-
pèdes*.

25. Famille. PTIOPODIA. Les *Ptiopodes*.

1. Sous-famille. PELICANEA. Les *Pélicaniens*.
Bec non serreté. G. 1. *Fregata* Lac. 2. *Carbo-
narius* R. *Carbo* Lac. 3. *Pelecanus* L.

2. Sous-famille. PLOTTIDIA. Les *Plottidiens*.
Bec serreté. G. 4. *Sularius* R. *Sula* Lac. 5.
Phacton L. 6. *Plotus* L.

En tout 270 Genres.

[p. 219, under "Additions et Corrections."]

pag. 65. l. 32.— *Huhus* L.— *Onixylus* R.

pag. 66. l. 26.— DIPLAMPHA. *Diplamphus* — lisez —
DIPLAMPHIA. Les *Diplamphes*.

..... l. 28.— *Calopus* — lisez — *Calapus*.

pag. 67. l. 10.— OLYPHIA — lisez — POLYPHIA.

pag. 68. l. 11.— PASSERNIA — lisez — PASSERIA.

..... l. 21.— Ajoutez avant *Parus* L.— *Parulus* L.

..... l. 23.— *Oitrus* R.— lisez — *Philomela* R.

..... do.— *Otimus* R.— lisez — *Otymnus* R.

..... do — *Cripolus* R.— lisez — *Cnipolus* R.

pag. 69. l. 33.— *Argus* R.— lisez — *Argusianus* R.

pag. 70. l. 5.— Ajoutez avant *Pavo* L.— *Pavianus* L.

pag. 71. l. 12.— *Himantopus* R.— lisez — *Himan-*
tellus L.

..... l. 19.— *Helias* R.— lisez — *Ornelias* R.

On page 216, under "Abbréviations," he gives "Sp. do." as standing for "Espèces du Genre précédent."

NOTES ON THE ABOVE REPRINT.

Several errors, especially of authority for generic names, are noticeable in this work. Thus, *Huhus* (p. 65), *Empharis* (p. 70), *Parulus*, *Pavianus*, and *Himantellus* (p. 219) should be credited to "R." instead of "L." In other cases, names previously used by Brisson, Lacépède, Cuvier, and others, are here credited to "R." These are enumerated in the list of Rafinesque's new genera given below, since they are so designated by him. Examples of this class are *Passer* "R.", *Muscivora* "R.", *Tyrannus* "R.", *Calidris* "R.", and *Cinclus* "R.", the last name being used for no less than three genera. *Ixosorus* (p. 67) has no authority cited for it, but is obviously new. There are a few other evident slips, not corrected by the author, such as *Loxia*, page 68, numbered "28." On the same page, "*Psoridus* R." is ostensibly a substitute name for "*Sylvia* Lath.", but in this case the figure "5" has been clearly omitted before the word *Sylvia*. This correction would give *Psoridus* the rank of a nomen nudum. Another slip on page 68

is not so easily explained. "*Quiscalis* R." appears as a substitute name for "*Sturnus* L.", although in this one case, Rafinesque's new name follows the old one, instead of preceding it. There is no break in the numbers of the genera of the "sous-famille" containing this name, and while the author's intention was doubtless to introduce *Quiscalis* as a genus additional to *Sturnus*, what he actually did was to rename the latter. *Quiscalis* of Rafinesque antedates *Quiscalus* Vieillot by one year.

Several emendations or misprints occur, such as *Guan*, *Phacton*, *Plottus*, and *Crotophagus*, for *Gouan*, *Phaeton*, *Plotus*, and *Crotophaga*, respectively.

Rafinesque apparently instituted 181 new bird genera in the 'Analyse.' Of this number, only 20 are properly introduced, being substitute names for others too long or too short to suit the author, or otherwise falling short of the requirements laid down in his 'Principes Fondamentaux' of 1814. Of the remainder, 126 are pure nomina nuda, and 35 are based on unnamed species of the preceding genus ("Sp. do."). Many of these can be recognized, from the author's habit of giving a vernacular name of the species in Latin form. Thus, *Morocus* is doubtless based on the "Moroc" of Bruce (*Cuculus indicator* Sparrman); *Atinganus* is probably the "Atingacu" of Marcgrave (*Cuculus cornutus* Linnæus); *Quaxotus* appears to be derived from the "Quaxoxoctotol" of Hernandez (= *Pharomachrus*?), etc.

List of New Bird Genera proposed in the 'Analyse.'

Names preceded by an asterisk are citable in nomenclature, those marked by a dagger are based on "Sp. do." and the remainder are nomina nuda.

<i>Aetopsis</i> , p. 70.	<i>Aracarius</i> , p. 65.
<i>Agotilax</i> , p. 69.	<i>Argus</i> , p. 69.
† <i>Albagum</i> , p. 66.	(Changed to <i>Argusianus</i> on p. 219.)
† <i>Alcyon</i> , p. 66.	
* <i>Anassus</i> , p. 72.	<i>Argusianus</i> , p. 219.
<i>Anseria</i> , p. 72. ¹	<i>Argyramphus</i> , p. 67.
† <i>Antolta</i> , p. 66.	<i>Arimanus</i> , p. 64.

¹ *Anseria* was first used in 1814, as a substitute for *Anser* Brisson.

†Atinganus, p. 65.
 Athisus, p. 68.
 Averanus, p. 67.
 Bacamus, p. 69.
 Balearius, p. 71.
 Balitus, p. 65.
 Bargea, p. 71.
 Baristus, p. 68.
 Becardia, p. 67.
 Bengalis, p. 68.
 Blarga, p. 71.
 Brachopus, p. 69.
 *Bubotus, p. 69.
 Bynamphus, p. 71.
 Calandra, p. 68.
 Calidris, p. 71.
 Calleas, p. 68.
 Calliptera, p. 65.
 Calopus, p. 66.
 (Corrected to *Calapus* on
 p. 219.)
 Camploris, p. 72.
 *Carbonarius, p. 72.
 Cariama, p. 70.
 Caryocactus, p. 67.
 *Catacus, p. 64.
 †Cenoramphus, p. 65.
 Cephalax, p. 65.
 Cephanomus, p. 64.
 Cepharcus, p. 68.
 Cepsua, p. 67.
 †Ceratops, p. 66.
 †Chadirus, p. 66.
 Chavaria, p. 70.
 Cinclus, p. 67.
 Cinclus, p. 68.
 Cnipolus, p. 219.
 (= *Cripolus* of p. 68.)

Collurio, p. 67.
 Copsicus, p. 67.
 Corbivus, p. 68.
 Cossyphus, p. 67.
 Cotinga, p. 67.
 Cravus, p. 68.
 Cripolus, p. 68.
 (Corrected to *Cnipolus* on
 p. 219.)
 †Cuaris, p. 65.
 Curlirius, p. 71.
 Curucus, p. 65.
 †Dactalum, p. 66.
 Dactemia, p. 71.
 Derimanus, p. 67.
 Dermodera, p. 71.
 Derotis, p. 69.
 †Dicreadium, p. 66.
 *Dinopium, p. 66.¹
 †Diplopus, p. 65.
 †Diramphus, p. 66.
 Drepanis, p. 69.
 †Drongus, p. 67.
 †Edolius, p. 65.
 *Empharis, p. 70.
 Epirincus, p. 72.
 Gallus, p. 69.
 *Ganix, p. 69.
 Gingala, p. 67.
 Glandarius, p. 67.
 Glossiphus, p. 65.
 Gonotrimphus, p. 67.
 Guitus, p. 68.
 Gymnasa, p. 69.
 Helias, p. 71.
 (Changed to *Ornelias* on
 p. 219.)
 Hemniphas, p. 72.

¹ *Dinopium* dates from 1814, and will be mentioned later.

Hemondra, p. 71.
 Heorotarius, p. 68.
 Himantellus, p. 219.
 Himantopus, p. 71.
 (Changed to *Himantellus* on
 p. 219.)
 †Huhus, p. 65.
 (Changed to *Onixylus* on
 p. 219.)
 Hydrosora, p. 71.
 Ibijus, p. 69.
 Idoplus, p. 69.
 Igithalus, p. 68.
 †Ispida, p. 66.
 Ixosorus, p. 67.
 *Jacana, p. 70.
 †Kerytus, p. 66.
 Kinkus, p. 68.
 Labbus, p. 72.
 Lepageus, p. 67.
 Lophalus, p. 72.
 †Macropogon, p. 65.
 Mactylus, p. 68.
 Malimbus, p. 67.
 Manucodus, p. 67.
 Maracanus, p. 65.
 Mel phagus, p. 65.
 Mellisuga, p. 68.
 Merotias, p. 72.
 Merulus, p. 67.
 Mesorina, p. 68.
 Milvus, p. 69.
 †Morocus, p. 65.
 Muscivora, p. 67.
 †Myriphaga, p. 69.
 Myrmisus, p. 67.
 Nemoderus, p. 67.
 Nessarius, p. 72.

†Nodinus, p. 72.
 Nycticorax, p. 71.
 Ochropus, p. 71.
 Odopus, p. 70.
 Odorincus, p. 70.
 Oedinecmus, p. 71.
 Oîtrus, p. 68.
 (Changed to *Philomela* on
 p. 219.)
 Onixylus, p. 219.
 (= *Huhus* of p. 65.)
 *Onocalus, p. 72.
 Ornelias, p. 219.
 (= *Helias* of p. 71.)
 Ortigum, p. 71.
 *Otodus, p. 70.
 Optimus, p. 68.
 (Corrected to *Otymnus* on
 p. 219.)
 Oxamphus, p. 66.
 *Paracus, p. 65.
 *Parulus, p. 219.
 Passer, p. 68.
 †Patricus, p. 66.
 *Pavianus, p. 219.
 Percnopterus, p. 69.
 Phenes, p. 69.
 Philomela, p. 219.
 (= *Oîtrus* of p. 68.)
 †Phlorus, p. 66.
 †Pinguinus, p. 71.
 Plancus, p. 69.
 †Platamphus, p. 66.
 Platorincus, p. 67.
 Pleptera, p. 72.
 †Pogophthalmus, p. 66.
 *Priamphus, p. 72.
 Protalmus, p. 64.

Psitamphus, p. 68.
Psoridus, p. 68.
†Pteropogon, p. 69.
†Puffinus, p. 72.
Pyrrhula, p. 68.
Quaxotus, p. 65.
*Quiscalis, p. 68.
†Ramphalax, p. 66.
Ramphanodus, p. 66.
†Ramphimatus, p. 65.
†Ramphisma, p. 65.
Rincopogon, p. 67.
Rincoptyx, p. 65.
Rincortus, p. 66.
†Rulula, p. 69.
Sarcopogon, p. 72.
Sideropis, p. 67.
Siopornis, p. 67.

*Sittella, p. 68.
Sizeris, p. 68.
Solmorineus, p. 72.
Sovimanga, p. 68.
†Spheniscus, p. 71.
Strepera, p. 67.
*Sularius, p. 72.
Talapius, p. 68.
†Tamatia, p. 65.
Tanasus, p. 69.
*Turnix, p. 69.
*Tuyus, p. 70.
Tyrannus, p. 67.
*Umbretta, p. 71.
Vanellus, p. 71.
†Vibranius, p. 67.
Xanthornus, p. 68.

WINTER BIRDS OF NEW ONTARIO, AND OTHER
NOTES ON NORTHERN BIRDS.

BY G. EIFRIG.

BROADLY speaking, New Ontario comprises all the vast territory between Lakes Superior and Huron and Hudson Bay; and between Manitoba in the west and the longitude of Lake Nipissing in the east. In a narrower and more common sense, however, New Ontario means the land along the new provincial railroad from North Bay, on the northeast shore of Lake Nipissing, to Matheson, near Lake Abitibi in the north. This road is to be extended to the projected Transcontinental Grand Trunk Pacific Railway, and afterwards even to James Bay. Along this railway the rich veins of silver have been discovered, which have drawn

so many into these northern wilds and have made towns spring up like mushrooms, the most noted of which is Cobalt, from which the whole region sometimes receives the same name. Into this district I had occasion to go in the middle of last March and to stay about two weeks in the various places along the railroad. And as bird lists from this locality are few and far between, especially of winter birds, the few notes I made may not be amiss. Nor is the list a very extended one, but the very paucity of birds tells its own peculiar story.

As I left Ottawa the first large flocks of Crows were piling in on the fields from the south. Only fields having a decided southern slope showed places free from snow. In most places it was still rather deep, so the Crows were not entering a land of plenty. At North Bay I saw only four newly arrived Crows.

It may seem strange to call birds seen in the end of March winter birds. But such they were. For the region north of North Bay was to all intents and purposes still in the middle of winter. Only the lengthening days and the intensity of the sun's rays made it certain that the end of winter could not be far off. Otherwise there was snow everywhere, none had melted so far; the rivers and lakes were still used as highways for the teams hauling supplies to the mines and lumber camps, as much as earlier in the winter.

The first winter bird I saw was a Raven (*Corvus corax principalis*) at Englehart, 138 miles north of North Bay. I was told that several had been seen at Larder Lake, about 15 miles northeast, all winter. The thermometer stood at 6° above zero in the afternoon, during the night it must have been 10°-25° below. The north wind was intensely cold. Right in the path of its icy blasts a bunch of jolly Chickadees (*Parus atricapillus*) were gamboiling in some pines, singing their soft, *Peabody*.

At Brentha P. O., 5 miles west of Heaslip station — most of these names are not yet on maps — I had a unique experience with a Canada Jay (*Perisoreus canadensis*). A Swiss settler told me, that near his little primitive cabin, that he had built for himself in the wilderness, was a 'meat bird,' which would come to him when called and eat out of his hand. I said, I would come next morning and take its picture. He said, it perhaps would not come when seeing a stranger there or not stay on his hand long enough.

I said, I would try. When I reached his cabin, he was not at home, but, according to his wish, I went in, took some breakfast food — rolled oats — in my hand, went out and called the name the owner of the cabin had divulged to me. Imagine my surprise when out of a spruce thicket in a hollow before the cabin a Canada Jay came and without much ado flew on my extended hand and ate to his heart's content, as though we had known each other for years. Then he took some in his bill and flew back to the thicket, where he undoubtedly fed his mate, incubating the eggs. Of course, the name had nothing to do with its coming, it came also without being called; the food was all it cared for. I set my kodak on a wood pile, near where I had stood and got some more eatables. The Jay came again, flew on my hand, eyed me a little and then fell to eating again. With my right hand I took its picture twice, while feeding on the left. They proved failures, however, since the bird was too close to the camera for a snap shot. Shortly after the owner came, who was not a little astonished at my story, and I then took some better pictures of the bird on his hand.

On the way back to Heaslip I saw about 15 Chickadees and one Hairy Woodpecker (*Dryobates villosus leucomelas*), *i. e.*, if that form is really the Ontario one, and not true *villosus*.

At Kingersdorf, 8 miles north of Englehart, whereto I walked in the teeth of a fiercely cold north wind, there were a few Snowflakes (*Plectrophenax nivalis*) about the cabin of the man after whom the new station had been named. A flock of about 25 of these, I saw on Lake Temiskaming at the town of Haileyburg.

The English Sparrow (*Passer domesticus*), while already established at Cobalt, had not yet penetrated far enough north to reach Englehart. It was rather a relief to be for once in a sparrowless town. But no doubt, they are there now.

At Latchford, south of Cobalt and Englehart, I saw a flock of Redpolls (*Acanthis linaria*), and in an open place in the Montreal River, at the rapids near the railway bridge three Golden-eyes (*Clangula americana*).

And finally, at New Liskeard, I again saw the vanguard of first spring migrants here, a flock of Crows, which I had left behind at North Bay, flying due north.

These are all the birds I saw in this northland. Could I have

gone into the woods, I might have encountered, if luck had favored me, the two Three-toed and the Pileated Woodpeckers, the Canada Ruffed and Spruce Grouse (*Bonasa umbellus togata* et *Canachites canadensis*), possibly also the Sharp-tailed Grouse (*Pediocetes phasianellus*), and the Hawk and Great Gray Owls. It must be admitted that the winter bird-life of New Ontario is not a very conspicuous one.

Great Horned Owl *versus* Porcupine.—In December, 1907, a *Bubo virginianus* was brought to me, which had been shot on the 19th at Inlet, Labelle Co., Quebec, 50 miles northeast of Ottawa. It proved to be a remarkable specimen from the fact that it bore palpable evidence of having had an encounter with a porcupine, shortly before it was shot. It was liberally sprinkled over with quills, especially on the sole of the right foot — the quills having penetrated even that horny skin — under the right wing, on the breast, neck, and even two in the left eye-lid. Some of the quills had pierced the thick, solid muscles of the breast, lying against the sternum. Fifty-six quills and parts of quills were extracted from the skin and flesh, and about ten left in. How did this owl come to tackle such an undesirable antagonist or prey? The probability is, that the owl was foraging for food, and, being very hungry — probably a not uncommon experience for them in these northern woods — swooped down on the first moving object that even remotely appeared like legitimate prey, and, in her eagerness and possibly by reason of darkness in the woods, did not find out her mistake until she had reached forward with one claw and gotten that full of spines, simultaneously receiving also a slap from the tail of the porcupine, that lodged the rest of the little barbed spears in her anatomy.

Most of the hawks and owls received here in winter have empty stomachs, showing that hunger must be a frequent, if disagreeable experience with them. At such times the gall seems to discharge more copiously into the stomach, as it and the intestines are in such cases very green. Probably a way nature adopts to somewhat relieve the pain of hunger.

There is an old established breeding colony of Black-crowned Night Herons (*Nycticorax nycticorax naevius*) on Kettle Island near

Ottawa. However, birds in the adult plumage are almost never seen, but any number of young in August and September. Mr. E. White broke this monotony by securing two adult males, Sept. 10, 1907, in a little swampy woods, near the city limits.

The appearances of Brünnich's Murre (*Uria lomvia*) south of their breeding range, are for most localities, when they are seen at all, put down as being of infrequent or at least very irregular occurrence. Here at Ottawa, however, it may be called a regular event. For quite a number of years past, they have come every November, usually in the second half of the month, *e. g.*, in 1907 the first came Nov. 25 and the last Dec. 8. They usually appear during high easterly winds, coming from the direction of the wind and succumb in numbers to the guns of the habitues of the river, mostly French-Canadians. It is difficult to secure specimens, however, for many are quickly bought up by people desiring to have them mounted as ornaments for their parlors, and the rest are plucked and *eaten* by the successful hunters.

Adult males of all three Scoters, *Oidemia americana*, *deglandi* and *perspicillata*, have this fall (1908), in September and October, been taken near Ottawa, which is a very unusual occurrence, especially as regards the first named. One of these was secured by Mr. G. White for his collection, and one of the last was seen by the writer in the hands of a taxidermist, Oct. 28.

A still greater rarity was secured Nov. 2 by Mr. Bedard, the rifle-range keeper, who on that date took four young King Eiders (*Somateria spectabilis*). They were in the company of two adult males, which were wary enough to escape. One of them is now in my collection, two in that of the Fisheries Museum, and the fourth in the collection of Mr. E. White. This is the first record for this species from this neighborhood.

SOME NOTES ON THE BIRDS OF OKANAGAN,
BRITISH COLUMBIA.

BY ALLAN BROOKS.

THE following notes comprise the more important results of the last few years' field work in the Okanagan district. While the greater portion of the Okanagan Valley lies in the Transition Zone, the thirty miles running north from the International boundary evidently belong to the Upper Sonoran, as characterized by the luxuriant growth of greasewood, and the presence of such Sonoran forms as horned toads (*Phrynosoma*), and jack rabbits (*Lepus texianus*). It is in this southern portion of the district, in the neighborhood of Osoyoos Lake, that the additions to the Canadian fauna can be expected to occur. Mr. C. deB. Green who resides at this point has recently devoted much of his time to ornithology, and I am indebted to him for some most interesting records.

Undoubtedly many more Great Basin forms will occur; some of them, such as Cañon Wren and Sage Sparrow, have already been fairly well identified by Mr. Green, but they are not included in this list, as specimens have not been taken.

The lower portion of the Similkameen Valley also lies in the Upper Sonoran zone, the rainfall here reaching the minimum for Canada, averaging only three inches yearly.

Recurvirostra americana. AMERICAN AVOCET.—During twenty years collecting in British Columbia I have kept a special lookout for this bird, but not until April 28 of the present year have I ever come across it. On that date a flock of fifteen arrived at the north end of Okanagan Lake and I secured six of them — five adult females with ovaries enlarged, and one young male, which would not have bred this year. This would indicate that the species does not pair until its arrival at its breeding grounds. This is the first record for the Province.

Nycticorax nycticorax nævius. BLACK-CROWNED NIGHT HERON.—On the evening of August 3 of the present year I saw a bird that could have been nothing but a Night Heron, at Okanagan landing. It had a rather quick bittern-like flight and continuously uttered a hoarse quack, quite different from the note of a bittern. It circled twice around my canoe in response to an imitation of its cry and then continued its journey southward, quacking at regular intervals.

***Totanus solitarius.* SOLITARY SANDPIPER.**

***Totanus s. cinnamomeus.* WESTERN SOLITARY SANDPIPER.**—Both forms of the Solitary Sandpiper occur in the Okanagan district in about equal numbers, as is proved by a series collected by myself in the past four years. Neither breed, though young with down still adhering have been taken.

***Falco mexicanus.* PRAIRIE FALCON.**—The Prairie Falcon occurs throughout southern British Columbia but the only locality I have found it breeding is in the southern portion of the Okanagan district. A pair had a nest in a cliff near the residence of Mr. C. deB. Green at Osoyoos Lake; near by was the eerie of another falcon—a Peregrine—the male of which incessantly badgered the female Prairie Falcon, with a series of splendid stoops.

***Falco peregrinus pealei.* PEALE'S FALCON.**—In the semi-arid interior one would naturally expect to find the pale form of the Peregrine, but while the adults are not particularly dark, the young are fully as dark as the darkest specimens I have seen on the coast.

In the young the whole mantle is sooty black, the feathers edged with cinnamon—not whitish or buffy as in typical *anatum*. The lower surface is heavily streaked. Still it is well known among falconers how the young of these falcons vary, even in the same localities, so I place these only provisionally under *pealei*.

***Falco columbarius.* PIGEON HAWK.**—The breeding Merlin is nearly pale enough for *richardsoni* but the number of tail bars agrees with *columbarius*.

Young birds that I take to be *richardsonii* occur on migrations, but I have only once taken *suckleyi* east of the Cascades, a young female taken in August, 1907, at Okanagan Landing.

In the very large number of Merlins that I have collected or examined in British Columbia, representing all three subspecies, only one *suckleyi* showed any approach to *columbarius*, while a number of puzzling intergrades between *columbarius* and *richardsonii* have been noted.

***Otus asio kennicottii.* KENNICOTT'S SCREECH OWL.**—The Screech Owls of the Okanagan and Osoyoos districts, while averaging rather paler than coast specimens, are nearer the above form than the Rocky Mountain subspecies, *maxwelliae*.

***Otus flammeola idahoensis.* DWARF SCREECH OWL.**—In November, 1902, I picked up a dilapidated specimen of this little owl on the beach at Penticton at the south end of Okanagan Lake. This is the only Canadian record.

***Sphyrapicus thyroideus.* WILLIAMSON'S SAPSUCKER.**—When surveying in the hills near Fairview in the Osoyoos district Mr. C. deB. Green had a male of this sapsucker within close range for some time. With his transit telescope he was enabled to note every feather, and described the markings so minutely that there can be no doubt of the species.

There is also an old record for Similkameen made I think by R. V. Griffin.

Aëronautes melanoleucus. WHITE-THROATED SWIFT.—This is another species, new to Canada, that I have so far been unable to secure specimens of. Three or four pairs bred in the summer of 1907 in the high cliffs at the outlet of Vaseux Lake; they were daily seen by Mr. Green and two other close observers and there can be no doubt as to their identity.

Otocoris alpestris articola. PALLID HORNED LARK.—Mr. Green this year took the eggs of the Pallid Horned Lark on the high mountains above timber line, between the Okanagan and Similkameen valleys and collected the female, which is now in my collection.

This is the breeding form on all the high mountains of the Province, *Otocoris a. merrilli* being restricted to the arid lower levels; nowhere do their breeding ranges impinge on each other.

Nucifraga columbiana. CLARKE'S NUTCRACKER.—Clarke's Nutcracker is a fairly common though irregular breeder at low elevations throughout the Okanagan district. I took two nests March 23 and 30, 1906, both in ponderosa pine trees, and Mr. Green has taken three more this year at Osoyoos. Two broods are reared, as I have seen nestlings being fed in June.

Dolichonyx oryzivorus. BOBOLINK.—A regular summer visitant and increasing. Breeds as far north as Lumby; common at Penticton.

Coturniculus savannarum bimaculatus. WESTERN GRASSHOPPER SPARROW.—Scarce breeder from Vernon south.

Chondestes grammacus strigatus. WESTERN LARK SPARROW.—Common breeder at Osoyoos, scarce at Vernon.

Zonotrichia leucophrys gambeli. INTERMEDIATE SPARROW.—The Intermediate White-crowned Sparrow breeds from 1200 feet (Okanagan Landing) up to timber line (Osoyoos district).

Spizella breweri. BREWER'S SPARROW.—This year Mr. Green found Brewer's Sparrow a fairly common resident in sage brush areas at Osoyoos. Previous to this the only records I am aware of were Mr. Rhoads's at Ashcroft, and one taken by myself on migration at Vernon. My record for 158-mile House, Cariboo district, proved a mistake of identity, the two males taken being *Spizella pallida*—also new to the British Columbian list.

Junco hyemalis montanus?—The Juncos of the Okanagan district are very puzzling. Dr. Dwight tells me that two I have sent him are very close to *montanus*, others are typical *shufeldti*, while during migrations a bewildering range of variation can be seen.

Roughly speaking, the wintering birds and those that breed at high altitudes are typical *shufeldti*, those breeding in the Pine belt approach *montanus*, while the migrating hordes show a very large admixture of *hyemalis*, typical examples of which I have taken as far west as the west slope of the Cascades at Chilliwack.

Lanius ludovicianus gambeli. CALIFORNIA SHRIKE.—Mr. Green sent me a very dark example of the California Shrike taken at Osoyoos in March of the present year—the second record for British Columbia.

Icteria virens longicauda. LONG-TAILED CHAT.—A common breeder at Osoyoos; rare at Vernon.

Oroscoptes montanus. SAGE THRASHER.—This is another species the addition of which to the Canadian list is due to the energy of Mr. Green. He reports it as a scarce local breeder in the sage brush country of Osoyoos district, and has sent me a handsome set of four eggs with the male bird collected 21st June of this year.

THE DESTRUCTION OF BIRDS AT NIAGARA FALLS.

BY LEON J. COLE.

IN HIS interesting account, in the July 'Auk,' of the destruction of a large number of Whistling Swans at Niagara Falls, on May 15, 1908, Fleming¹ mentions that birds have been killed by going over the Falls in times past. In this same connection the following extracts from what is said to be the first description of Niagara Falls published in the English language may be of interest to ornithologists. The extracts are from "A Letter from Mr. Kalm, a Gentleman of Sweden, now on his Travels in America, to his Friend in Philadelphia; containing a particular Account of the Great Fall of Niagara," written at Albany, September 2, 1750. This account first came to my notice in the recent excellent monograph on 'The Falls of Niagara,' by Professor Spencer,² in which it is republished as an appendix; but in quoting I have taken directly from a reprint of the original account of John Bartram³

¹ Fleming, James H. The destruction of Whistling Swans (*Olor columbianus*) at Niagara Falls. *Auk*, Vol. XXV, pp. 306-309, 1908.

² Spencer, Joseph William Winthrop. The Falls of Niagara; their evolution and varying relations to the Great Lakes; characteristics of the power, and the effects of its diversion. Canada Dept. of Mines, Geol. Surv. Branch, 1905-6, xxxii + 490 pp., pls. and maps. 1907.

³ Observations | on the | Inhabitants, Climate, Soil, Rivers, Productions, | Animals, and other matters worthy of Notice. | Made by | Mr. John Bartram, | in his Travels from | Pennsylvania | to | Onondago, Oswego and the Lake Ontario, | In Canada. | To which is annex'd, a curious Account of the | Cataracts at Niagara. | By Mr. Peter Kalm, | A Swedish Gentleman who travelled there. | London: | Printed for J. Whiston and B. White, in | Fleet-Street, 1751. [Reprinted by W. F. Humphrey, Geneva, N. Y., 1895.] viii + 94 pp.

of his "Travels from Pensilvania to Onondago, Oswego and the Lake Ontario," in which Kalm's letter was first published. Kalm gives a really excellent description of the Falls, and one which is very temperate throughout, a characteristic nome too common in the accounts of the early travellers. Kalm, in fact, apparently prides himself on this attitude, for he says in his letter, after stating that he has obtained all the information he could by questioning the French at Fort Niagara: "But as I have found by experience in my other travels, and that very few observe nature's works with accuracy, or report the truth precisely, I cannot now be entirely satisfied without seeing with my own eyes whenever 'tis in my power." He says of Father Hennepin, who had previously given the height of the Falls as 600 feet; "but he has gained little credit in *Canada*; the name of honour they give him there, is *un grand Menteur*, or *The great Liar*; he writes of what he saw in places where he never was..... For my part, who am not fond of the *Marvellous*, I like to see things just as they are, and so to relate them." He himself gives 137 feet as the height (on the authority of "the king's engineer in *Canada*"), which is considerably *under* the present measurements.

Of the loss of bird life at the Falls he says: "Several of the French gentlemen told me, that when birds come flying into this fog or smoak of the fall [the mist from the cataract], they fall down and perish in the Water; either because their wings are become wet, or that the noise of the fall affonishes them, and they know not where to go in the Dark: but others were of opinion, that seldom or never any bird perishes there in that manner; because, as they all agreed, among the abundance of birds found dead below the fall, there are no other sorts than such as live and swim frequently in the water; as swans, geese, ducks, water-hens, teal, and the like. And very often great flocks of them are seen going to destruction in this manner: they swim in the river above the fall, and so are carried down lower and lower by the water, and as water-fowl commonly take great delight in being carry'd with the stream, so here they indulge themselves in enjoying this pleasure so long, till the swiftness of the water becomes so great, that 'tis no longer possible for them to rise, but they are driven down the precipice, and perish. They are observ'd when they draw nigh the fall, to

endeavour with all their might to take wing and leave the water, but they cannot. In the months of *September* and *October* such abundant quantities of dead waterfowl are found every morning below the Fall, on the shore, that the garrison of the fort for a long time live chiefly upon them; besides the fowl, they find also several sorts of dead fish, also deer, bears, and other animals which have tried to cross the water above the fall; the larger animals are generally found broken to pieces."

Further on he adds: "I was told at *Ofwego*, that in *October*, or thereabouts, such plenty of feathers are to be found here below the Fall, that a man in a day's time can gather enough of them for several beds, which feathers they said came off the birds kill'd at the Fall. I ask'd the *French*, if this was true? They told me they had never seen any such thing; but that if the feathers were pick'd off the dead birds, there might be such a quantity."

Kalm remarks that "It was formerly thought impossible for any body living to come at the Island that is in the middle of the fall" (Goat Island), but relates that, some 12 years or so previous to his visit, two Indians in a canoe drifted down the river by accident, and managed to land on the island. After ineffectual efforts to get off, in the course of which they made "a ladder or shrouds of the bark of lindentree (which is very tough and strong)" and descended to the foot of the Fall, only to be dashed back when they attempted to swim ashore, they were finally rescued, when they had been there nine days and were almost starved, by other Indians, who waded across to the island with the help of poles pointed with iron. Kalm adds, in his letter to his friend: "Now since the way to this island has been found, the *Indians* go there often to kill deer, which having tried to cross the river above the fall, were driven upon the island by the stream: but if the King of *France* would give me all *Canada*, I would not venture to go to this island; and were you to see it, Sir, I am sure you would have the same sentiment."

LIST OF BIRDS OBSERVED ON THE UPPER TOKLAT
RIVER NEAR MT. McKINLEY, ALASKA, 1907-1908.

BY CHARLES SHELDON.

THE birds noted in this list were observed incidentally while hunting and studying the habits of some of the larger animals at the head of the Middle Fork of Toklat River, Alaska, practically at the north base of Mount McKinley in the main Alaskan range, latitude about $63^{\circ} 30'$. The river has its sources in the glaciers of the main range and flows through four high ranges before it emerges outside, where the main body of the timber ends. From its entrance into the outside range, however, there is a fringe of spruces on both sides from two to three hundred yards wide extending up the mountain slopes and thus continuing to within a few miles of the source. I built my cabin in the extreme upper end of this tongue of timber, 10 miles above the point where the river emerges from the outside range. The birds mentioned in this list were observed at and above that point, mostly above all timber. The variety of bird life in the region is not great. I arrived about the first of August, 1907, and left June 11, 1908. Careful attention was given to recording the spring arrivals, but the fall departures, in most cases, were not observed. By the latter part of September, 1907, all birds but the residents had gone, except in the few cases mentioned. The dates given show when the bird was first seen in the spring of 1908 or last seen in the fall of 1907. Thirty miles below, in the vast timbered area, bird life may be more varied and abundant.

The river is a silt-laden stream, dashing swiftly and often in several channels through a broad glacial valley with wide bars extending from a quarter to a half mile on each side. In some places willows grow abundantly; in others there is grass, but most of the country is bare. The mountains are high and rugged, with much snow on the north slopes the year round; they are usually bordered by narrow rolling hills, all above timber, and contain numerous small lakes of a few acres only. The trees are spruces and willows; willows often extend well up on the slopes and up the

creeks. The poplar is practically absent. Dwarf birch grows abundantly in places.

The specimens of birds collected were presented to the U. S. Biological Survey.

BIRDS OF TOKLAT RIVER REGION.

Larus argentatus. HERRING GULL.—Commonly breeding June 12, 40 miles below my cabin.

Larus brachyrhynchus. SHORT-BILLED GULL.—Seen commonly in pairs along the bars in spring. Probably breeds. First seen May 16.

Sterna paradisaea. ARCTIC TERN.—Common summer resident about the small lakes in the rolling country above timberline. Breeds. First seen May 30. Mature young observed August 2.

Anas platyrhynchos. MALLARD.—Summer resident below the mountain ranges. One migrating pair observed May 16. About 40 miles above the mouth of the river there is a stretch of 3 miles where the water does not freeze but remains open all winter. This is the end of the salmon run. About 300 mallards were there all winter. They fed on dead salmon and salmon eggs in the pools. White men have observed these ducks wintering there for seven years. Indians tell me they have always wintered there. I visited the spot on January 3, 1908, and secured two males and a female.

Sixteen mallards wintered on Moose Creek in the open water about 100 miles southwest of those in the Toklat. These also were in open water at the head of the salmon run.

Mallards winter also just below Gulkana Lake in the outlet which flows into Copper River, and a few have been observed wintering in a small tributary of the Tanana River just below the Delta River. Undoubtedly there are many other places in the interior of Alaska where Mallards winter.

Nettion carolinense. GREEN-WINGED TEAL.—Commonly seen with young in the small lakes in the rolling country above timber. So observed in July and August.

Histrionicus histrionicus. HARLEQUIN DUCK.—One pair observed May 16.

Chen hyperborea. LESSER SNOW GOOSE.—Flock of three seen migrating October 10.

Grus canadensis. LITTLE BROWN CRANE.—Seen only in fall migration, from Sept. 10 to early October. All flocks followed the same course.

Gallinago delicata. WILSON SNIPE.—Common summer resident. Arrived May 14.

Pisobia bairdi. BAIRD SANDPIPER.—One migrating pair observed May 12.

Heteractitis incana. WANDERING TATTER.—Very abundant in spring. Arrived May 18. A female was secured May 22. They appeared mated

in pairs and their actions showed they were preparing to breed. They were still about in abundance when I left, June 11, but probably had not begun to breed. They occurred along the river bars and at the lakes and even on the small creeks high on the mountains. Not observed in the lower country.

Bartramia longicauda. UPLAND PLOVER.—Common summer resident; breeds. Arrived May 28.

Actitis macularia. SPOTTED SANDPIPER.—Common summer resident. First observed a few miles below my cabin June 11, but undoubtedly arrived earlier. Breeds.

Numenius hudsonicus. HUDSONIAN CURLEW.—Summer resident in rolling country above timber. Arrived May 16.

Squatarola squatarola. BLACK-BELLIED PLOVER.—Observed occasionally late in July about the lakes.

Egialitis semipalmata. SEMIPALMATED PLOVER.—Common on bars in spring migration. Arrived May 17 and still about June 11.

Canachites canadensis osgoodi. ALASKA SPRUCE GROUSE.—Resident. From time to time through the winter one would appear in the woods near my cabin. Two fine males were secured in October, 1907. Abundant below, in the timbered region.

Lagopus lagopus. WILLOW PTARMIGAN.—Very abundant resident. Began to pair for breeding April 20.

Lagopus rupestris. ROCK PTARMIGAN.—A male was killed March 5 in the rolling country above timber.

Lagopus leucurus peninsularis. ALASKA WHITE-TAILED PTARMIGAN.—Not uncommon high on some of the mountains.

Circus hudsonius. MARSH HAWK.—Common summer resident. Arrived May 12. Breeds.

Aquila chrysaetos. GOLDEN EAGLE.—Common summer resident. Breeds, nesting in cliffs. Arrived April 8. Last observed September 21. Arrived paired and went directly to old nest and remained about it. One nest contained two eggs when I examined it April 29. When next I examined it, June 7, it contained two fledglings.

Gyrfalcon.—A large grayish hawk was observed at times through the winter, always on and about the creeks of the mountains.

Falco columbarius. PIGEON HAWK.—Common summer resident. Breeds. Arrived May 27. Large hawks were occasionally seen in summer, but the species were not recognized.

Asio flammeus. SHORT-EARED OWL.—Exceedingly abundant everywhere above timber in spring. Arrived April 30 in pairs. Breeds.

Glaux funerea richardsoni. RICHARDSON OWL.—A male killed May 4, 1908.

Bubo virginianus subsp.? HORNED OWL.—Common resident in the woods.

Nyctea nyctea. SNOWY OWL.—Very common above timber from November to early May.

Surnia ulula caparoch. AMERICAN HAWK OWL.—Common summer resident. Arrived April 10.

Ceryle alcyon. BELTED KINGFISHER.—Summer resident. Breeds. Arrived May 29.

Dryobates pubescens nelsoni. ALASKA DOWNTY WOODPECKER.—Resident. Not uncommon; always seen feeding in willows and sometimes as high as willows grow in the mountains. A male secured in December, 1907.

Picoides americanus fasciatus. ALASKA THREE-TOED WOODPECKER.—Resident in spruce woods. Common. A male secured October, 1907.

Sayornis saya. SAY PHOEBE.—Common. Arrived June 5.

Pica pica hudsonia. BLACK-BILLED MAGPIE.—One seen Sept. 22 in some high cliffs.

Perisoreus canadensis fumifrons. ALASKA JAY.—Resident. Very abundant.

Corvus corax principalis. NORTHERN RAVEN.—Resident. Abundant.

Euphagus carolinus. RUSTY GRACKLE.—Summer resident. Common. Arrived May 10, when a male was secured.

Pinicola enucleator alascensis. ALASKA PINE GROSBEAK.—Common in migrations but not observed at timberline between migrations. Few seen in spring, abundant in fall. First bird to arrive in spring; paired by March 12; migrated in flocks through October; last seen November 7. A male and a female were preserved in October, 1907, and a male March 11, 1908.

Leucosticte sp.?—Common in spring migration. Arrived May 3. Seen usually high above timberline in pairs.

Acanthis linaria. REDPOLL.—Resident. All through October numerous flocks appeared at timberline, but very few remained at timberline in winter. Common below the mountain ranges in winter. Again at timberline numerous flocks appeared in spring, beginning about April 15, and continued through May. Many remained near timberline to breed. In winter it feeds exclusively among willows. Males were secured in November, 1907, and May 24, 1908.

Plectrophenax nivalis. SNOWFLAKE.—Common spring migrant. Arrived April 8, when a specimen was secured.

Calcarius lapponicus alascensis. ALASKA LONGSPUR.—Abundant in spring migration. Arrived May 12, when a male was secured.

Zonotrichia leucophrys gambeli. INTERMEDIATE SPARROW.—Abundant summer resident. Arrived May 3, when a male was secured. Nest with one egg observed on a bar, in a small grass tuft. Next day, outside the ranges, 30 miles below, I found another nest on the bar with 3 young ones and one egg.

Zonotrichia coronata. GOLDEN-CROWNED SPARROW.—Commonly seen in spring. Arrived May 26.

Spizella monticola ochracea. WESTERN TREE SPARROW.—Summer resident. Breeds. Commonest of sparrows at timberline. Arrived April 26. Last sparrow to leave in fall, late in September.

Junco hyemalis. SLATE-COLORED JUNCO.—Common summer resident. Breeds. A male was secured April 30, 1908.

Passerella iliaca. FOX SPARROW.—Common summer resident. Arrived May 4.

Petrochelidon lunifrons. CLIFF SWALLOW.—Seen breeding in cliffs 25 miles below my cabin on June 11.

Riparia riparia. BANK SWALLOW.—Abundant summer resident. Breeds. Arrived May 18.

Lanius borealis. NORTHERN SHRIKE.—Common summer resident. Breeds. Arrived April 26.

Dendroica coronata. YELLOW-RUMPED WARBLER.—Common summer resident. Most abundant of warblers. Arrived May 9.

Dendroica striata. BLACK-POLL WARBLER.—Flock observed migrating, June 3.

Wilsonia pusilla pileolata. PILEOLATED WARBLER.—Common summer resident. Arrived May 20.

Anthus rubescens. PIPIT; TITLARK.—Very common summer resident. Breeds. Keeps mostly above timberline. A male secured May 12, 1908.

Cinclus mexicanus unicolor. WATER OUZEL.—Common resident. Abundant in winter on the open water where Mallards winter on the Toklat, mostly below the mountain ranges, and keeps constantly singing for two hours after dawn. Specimen secured.

Certhia familiaris montana. ROCKY MOUNTAIN CREEPER.—Male killed near cabin in woods October 21.

Penthestes hudsonicus. HUDSONIAN CHICKADEE.—Common resident.

Regulus calendula. RUBY-CROWNED KINGLET.—Common summer resident. Arrived April 29.

Hylocichla ustulata swainsoni. OLIVE-BACKED THRUSH.—Common summer resident. Arrived May 12. Keeps singing all night when breeding. A male secured May 27, 1908.

Hylocichla guttata. DWARF HERMIT THRUSH.—Summer resident; fairly common. Breeds. Arrived May 26, when a female was secured.

Planesticus migratorius. ROBIN.—Very abundant summer resident. Almost as common high in the mountains, at upper limit of willows, as it is below. Breeds usually in small spruces, occasionally in willows and on the ground. Arrived May 3. Last seen October 4.

Ixoreus naevius meruloides. PALE VARIED THRUSH.—Common summer resident. Breeds. Arrived May 15. Last seen October 7.

TWENTY-SIXTH STATED MEETING OF THE AMERICAN ORNITHOLOGISTS' UNION.

THE Twenty-sixth Stated Meeting, of the American Ornithologists' Union convened in Cambridge, Mass., Monday evening, November 16, 1908. The business meeting was held in Mr. William Brewster's museum, and the public sessions, commencing Tuesday, November 17, and lasting three days, were held in the Geological and Zoölogical Lecture-rooms of the University Museum.

BUSINESS SESSIONS.—The meeting was called to order by the President, Mr. Charles F. Batchelder. Sixteen Fellows were present. The Secretary's report gave the membership of the Union at the opening of the present Stated Meeting as 888, constituted as follows: Fellows, 48; Honorary Fellows, 13; Corresponding Fellows, 62; Members, 75; Associates, 690.

During the year the Union lost seventy-nine members, nine by death, forty-one by resignation, and twenty-nine for non-payment of dues. The deceased members included one Fellow, one Honorary Fellow, and seven Associates, as follows: Hon. Charles Aldrich, a Fellow, and one of the Founders of the Union, who died in Boone, Iowa, at the age of 80 years; Prof. J. V. Barboza du Bocage,¹ an Honorary Fellow, who died at the age of 84 years; and the following Associates: Prof. Leslie A. Lee,² who died at Portland, Maine, May 20, 1908, in the 56th year of his age; Prof. Francis H. Snow,³ who died in Bellfield, Wisconsin, Sept. 20, 1908, at the age of 68 years; Mrs. Ethel Richardson Chadbourne, who died at Sharon, N. H., Oct. 4, 1908; Cyrus Carleton, who died Nov. 15, 1907; Charles A. Fuller, who died March 16, 1906; Mrs. Thos. O. Conant, and Dr. Millet T. Thompson.

The report of the Treasurer showed the finances of the Union to be in a satisfactory condition.

Edward W. Nelson was elected President; Frank M. Chapman and A. K. Fisher, Vice-Presidents; John H. Sage, Secretary;

¹ For an obituary notice, see *Auk*, XXV, pp. 496-497.

² For an obituary notice, see *Auk*, XXV, pp. 340-341.

³ For an obituary notice, see *Auk*, XXV, p. 497.

Jonathan Dwight, Jr., Treasurer; Ruthven Deane, William Dutcher, F. A. Lucas, Chas. W. Richmond, Thos. S. Roberts, Witmer Stone, and Henry W. Henshaw, members of the Council.

F. DuCane Godman, of London, England, was elected an Honorary Fellow; Otto Herman, of Budapest, Hungary, was elected a Corresponding Fellow, and the following ninety-three persons were elected Associates, namely:

Dr. Z. B. Adams, Boston, Mass.; Charles H. Ames, West Newton, Mass.; Edward Avis, Worcester, Mass.; Claude T. Barnes, Salt Lake City, Utah; Oscar E. Baynard, Micanopy, Florida; Norman deWitt Betts, St. Louis, Mo.; Clarence Birdseye, New York City; Trustin B. Boyd, St. Louis, Mo.; Mrs. Ernest E. Brewer, Portland, Maine; C. E. Brown, Beverly, Mass.; William J. Brown, Westmount, Canada; Arthur L. Browne, West Roxbury, Mass.; Frank Bruen, Bristol, Conn.; Henry P. Burt, New Bedford, Mass.; Henry R. Carey, Cambridge, Mass.; Robert C. Caskey, Morristown, N. J.; Mrs. Fannie M. Chapman, Englewood, N. J.; Fred L. Charles, DeKalb, Ills.; John S. Codman, West Roxbury, Mass.; Leon J. Cole, New Haven, Conn.; Francis A. Corey, Keene, N. H.; Mrs. Annie F. Cutler, Chelsea, Mass.; Wm. M. Derby, Jr., Chicago, Ills.; Mary C. Dickerson, New York City; Gaines R. Donoho, East Hampton, L. I.; J. Sumner Draper, Readville, Mass.; L. P. Emerson, Cambridge, Mass.; G. Clyde Fisher, DeFuniak Springs, Florida; Richard E. Follett, Boston, Mass.; Mrs. Teresa I. French, Canton, Mass.; Edward F. Gaines, Ritzville, Wash.; Frank C. Gates, Chicago, Ills.; Frank H. Genung, West Haven, Conn.; Ludlaw Griscom, New York City; J. H. Hackenberg, Frankfort, Pa.; Samuel A. Harper, Maywood, Ills.; Chas. G. Hart, East Berlin, Conn.; C. E. Heil, Needham, Mass.; Arthur O. Heinrich, Baldwin, L. I.; Mrs. Nancy W. C. Holt, Cambridge, Mass.; Miss Louise Howe, Brookline, Mass.; Lucius Hubbard, South Bend, Ind.; Roy M. Ives, Clare, Iowa; Chas. D. Kellogg, Philadelphia, Pa.; Clarence M. Keyes, Pullman, Wash.; Anthony R. Kuser, Bernardsville, N. J.; Miss Bertha Langmaid, Boston, Mass.; W. Charlesworth Levey, Brookline, Mass.; C. B. Linton, Long Beach, Calif.; Sam. A. Lurvey, Southwest Harbor, Maine; Mrs. Ida W. McIntire, Cambridge, Mass.; William C. Mackie, Brookline, Mass.; F. Schuyler Mathews, Cambridge, Mass.; Chas. Merriam, Weston, Mass.; Willard L. Metcalf, New York City; Emory E. Nelson, Winnipeg, Canada; Daniel S. Newhall, Strafford, Pa.; Lucius H. Paul, Newark, N. Y.; Willard A. Paul, Dorchester, Mass.; Albert S. Peters, Lake Wilson, Minn.; J. Trevett Pike, Lynn, Mass.; Mrs. Francis Piper, Arlington Heights, Mass.; Alexander Pope, Hingham, Mass.; Arthur E. Price, Grant Park, Ills.; Henry C. Raven, Bay Shore, L. I.; Chas. H. Remington, East Providence, R. I.; Philip E. Robinson, Boston, Mass.; Wm. P. Shannon, New York City; Wm. T. Shaw, Pullman, Wash.; J. F. Stevens, Lincoln, Nebr.; Nathan F. Stone, Shrewsbury, Mass.; Thos. C. Taylor, Hubbard Woods, Ills.; Louis

A. Test, Los Angeles, Cal.; Miss Harriet W. Thompson, Port Sanilac, Mich.; Samuel Thorne, New York City; Mrs. Kate D. Tower, Boston, Mass.; A. H. Tuttle, Cambridge, Mass.; Miss Lucy W. Valentine, Cambridge, Mass.; Arthur W. Van Pelt, New Orleans, La.; Adrian Van Rossem, Pasadena, Cal.; Isaac H. Vrooman, Jr., Albany, N. Y.; Miss Ella S. Wales, Dorchester, Mass.; Frank H. Ward, Albany, N. Y.; Goodwin Warner, Cambridge, Mass.; Thos. C. Wayland, Simsbury, Conn.; Gordon B. Wellman, Malden, Mass.; Alexander Wetmore, Lawrence, Ks.; Ely L. Whitehead, Evanston, Ills.; Miss Alice W. Wilcox, Providence, R. I.; Harry C. Williams, St. Louis, Mo.; Henry A. Wing, Maywood, Ills.; Mrs. Elizabeth J. Worcester, Waltham, Mass.; John T. Zimmer, Lincoln, Nebr.

Drs. Allen, Dwight, Merriam and Richmond, and Messrs. Brewster, Ridgway and Stone were reappointed 'Committee on Classification and Nomenclature of North American Birds.'

Drs. A. K. Fisher, E. A. Mearns and Thos. S. Roberts, and Messrs. Chapman and Deane were appointed 'Committee on Bird Protection.'

PUBLIC SESSIONS. *First Day.*—The meeting was called to order by the President, Mr. Nelson.

The papers read during the morning session were as follows:
'Bird Studies in Northern Ontario,' by W. E. Clyde Todd.
Remarks followed by Drs. Townsend and Merriam.

'Canadian Bird Havens,' by Ernest T. Seton. In the absence of the author Mr. F. M. Chapman explained Mr. Seton's ideas on the subject.

'Scarcity of the Ruffed Grouse in 1907,' by E. Seymour Woodruff.
Remarks followed by Mr. Forbush, the author, Drs. Tuttle and Fisher, and Messrs. Francis and Brewster.

'A way to lighten the burden of Nomenclature,' by Dr. Jonathan Dwight, Jr. Remarks followed by Drs. Allen and Merriam, Messrs. Stone, Chapman and Brewster, and the author.

The papers of the afternoon were:

'Vernacular names of birds,' by Dr. Jonathan Dwight, Jr.
Remarks followed by Messrs. Rhoads, Bent, Todd, Batchelder, the author, and Drs. Merriam and Allen.

'The part played by Birds in the recent Field Mouse Plague in Nevada,' by Dr. C. Hart Merriam.

'A Hollow Tree,' by Ernest Thompson Seton, was read in the

absence of the author by Mr. Chapman. It was illustrated by lantern slides.

‘Some Observations on the Gulls and Terns of Massachusetts,’ by E. H. Forbush. Illustrated by lantern slides.

After adjournment, a reception to meet members of the Union was held from 4 to 6 o’clock, by Mr. and Mrs. Charles F. Batchelder at their home on Kirkland St.

In the evening the members of the Union and their friends met at dinner at the Oakley Country Club, Waverley.

Second Day.—The meeting was called to order by President Nelson.

The papers of the morning session were:

‘The position of Birds Feet in Flight,’ by Dr. Chas. W. Townsend. Remarks followed by Messrs. Francis, Chapman, and Finley.

‘The First Bird Protective Society in Italy,’ by Rev. W. R. Lord.

‘The tagging of wild birds as a means of studying their movements,’ by Dr. Leon J. Cole. Remarks followed by Drs. Hodge, Fisher, Bryan, Roberts, the author, and Messrs. Murdoch and Ells.

‘Observations on the Black Mamo,’ by Dr. W. A. Bryan. Remarks followed by Messrs. Brewster and Henshaw, and the author.

‘Experiences of an Ornithologist in Costa Rica,’ by M. A. Carricker, Jr.

The following papers were presented at the afternoon session:

‘Ornithological Miscellany from Audubon Wardens,’ by B. S. Bowdish.

‘A study of a breeding colony of Yellow-headed Blackbirds, with an account of destruction of the progeny of the entire colony by some unknown agency,’ by Dr. Thos. S. Roberts. It was illustrated by lantern slides.

‘Propagation of Bob-white,’ by Prof. C. F. Hodge.

The concluding papers were by Frank M. Chapman, both being illustrated by lantern slides and moving pictures: ‘Methods of study of the Nesting Habits of Birds,’ and ‘Pelican Island in 1908, with other Florida Notes.’

In the evening Mrs. Charles F. Batchelder invited the ladies of the Union to her house, and Mr. William Brewster gave a reception for the gentlemen of the Union at his Museum.

Third Day.—The meeting was called to order by President Nelson.

The papers of the session, all illustrated by lantern slides, were: 'Triumphs of Bird Protection in Louisiana,' by Rev. Herbert K. Job.

'Through Eastern Oregon,' by William L. Finley.

Resolutions were adopted thanking the Museum authorities of Harvard University for the use of the Geological and Zoölogical Lecture-rooms; to the Nuttall Ornithological Club for the very cordial welcome and most generous hospitality extended to the visiting members and friends of the Union; to Mr. and Mrs. Charles F. Batchelder and Mr. William Brewster, for the kind attention shown the members and friends of the Union, and to Col. and Mrs. John E. Thayer for the polite invitation to the members of the Union to visit their home and museum at Lancaster, Mass.

On Friday, November 20, after adjournment of the Union, a "pilgrimage" was made to Lancaster, Mass., by some seventy members and friends of the Union. The party was most cordially received by Col. and Mrs. John E. Thayer, and an inspection made of their fine museum and valuable ornithological library.

The next meeting of the Union will be held in New York City, commencing December 6, 1909.

The registered attendance of members at this Stated Meeting was much larger than ever before, and the social features will long be remembered.

JNO. H. SAGE,
Secretary.

GENERAL NOTES.

A Curious Influx of Southern Herons to New Jersey.—In the October, number of 'The Auk' (XXV, p. 473) I recorded the capture of an American Egret at Sea Bright, N. J., by Mr. R. B. Romaine. He has since informed me that sometime between August 5 and 15 two more were seen, and that from August 6 to September 5, 1908, a large flock (nearly fifty birds) of immature Little Blue Herons (*Ardea cærulea*) were inhabiting the tide flats. On September 5, the last day they were seen, he shot a male out of a flock of three, and wounded another. This specimen he had mounted, and is now in his home.

Mr. Romaine's family have lived at Sea Bright for nearly forty years, and never before have they seen any species of southern heron in the neighborhood. Could the excessively hot weather of the past July have caused their occurrence?—REGINALD HEBER HOWE, JR., *Concord, Mass.*

The Little White Egret in New Mexico.—A specimen of this beautiful heron (*Egretta (andidissima)*) was shot Oct. 21, 1908, while on a small pond at the home ranch of the G. O. S. Cattle Co., by one of the farm hands. Fortunately the writer arrived at the ranch the next day and was able to skin the bird at once; it proved to be a male in excellent plumage and flesh. It had been noticed for several hours before alighting on the pond, flying about the barn buildings in company with a flock of domestic pigeons. The bird is now in the possession of Mrs. Victor Culberson of the G. O. S. Ranch. This ranch has an altitude of 6300 feet, and is on the head waters of the Sapillo Creek (a tributary of the Gila River), the exact location of the ranch being Section 15, T 15 S, R 12 W.

The spot where this bird was taken is about sixty miles north of the place where the specimen reported in 'The Auk' two years ago by Maj. Munson, was secured.—W. H. BERGTOLD, *Denver, Colo.*

The Clapper Rail in Essex County, Mass.—On September 15, 1908, I picked up on the beach at Plum Island, Mass., near the mouth of the Ipswich River, a dead Clapper Rail. After fully satisfying myself as to the identity of the bird, I took it to the Abbott Frazer Co., taxidermists, in Boston, to be mounted. I have since been informed by them that no indications were found of the bird's having been shot; and, taking into consideration the fact that water ran freely from the bird's mouth when picked up by the legs, I imagine that it probably died in the water. The body did not appear to be decomposed to any extent, and the taxidermist's foreman informed me that the bird had probably not been dead over three days. Taking into consideration the direction of winds, etc., during that period, it seems very unlikely that the rail could have drifted from further south. I have written a full statement of the facts to Mr. John Robinson, of the Peabody Museum at Salem, Mass., and Mr. Edward S. Morse, the

curator; they both agreed that the bird should be regarded as an Essex County record. According to Mr. Townsend's 'Birds of Essex County,' and Howe and Allen's 'Birds of Massachusetts,' this is the first authentic record of the occurrence of the Clapper Rail in Essex County, though both cite: "Mr. J. F. Le Baron informed me that he shot a specimen some years ago at Ipswich." C. J. Maynard, the Naturalist's Guide, p. 145, 1870.

The mounted bird will be presented to the Peabody Museum, Salem.—
WILLIAM P. WHARTON, *Groton, Mass.*

Late Flight of Woodcock on Long Island, N. Y.—On December 5, 1908, while hunting near Flanders, Suffolk Co., I flushed a Woodcock (*Philohela minor*). On December 8, after a storm and heavy rain, eleven were shot in a small swamp at Lawrence, Nassau Co., close to the New York City line. The same day one was seen in a little strip of woods about one mile from this swamp.

In 30 years on Long Island, I have never seen other than stragglers after about November 20th and do not recall ever before seeing one in December.—HAROLD HERRICK, *New York City.*

Capture of the Ruff at Seabrook, N. H.—Mr. John Hardy of Boston has kindly presented me with an adult female Ruff (*Pavoncella pugnax*) shot at Seabrook, N. H., Sept. 23, 1907, by Charles Fowler, who said it was with a flock of Black-bellied Plover.—JOHN E. THAYER, *Lancaster, Mass.*

Eskimo Curlew taken at Newburyport, Mass.—I purchased of Mr. John Hardy of the Boston Market, a male Eskimo Curlew (*Numenius borealis*) taken at Newburyport, Mass., by A. B. Thomas, August 27, 1908. He shot two, but the other bird had its head so badly shot that it could not be made into a skin.—JOHN E. THAYER, *Lancaster, Mass.*

The American Golden Plover (*Charadrius dominicus*) in Ohio in Autumn.—On October 23, 1908, I met a flock of 6 American Golden Plovers at the Grand Reservoir, Ohio, and on October 27 a pair of them was shot, together with a Baird's Sandpiper and a pair of Wilson's Snipe at the Loramie Reservoir in Shelby Co., O. Fall records in Ohio for the American Golden Plover are very rare, in fact any record of the occurrence of this species in this State is interesting and noteworthy. The female of this pair of Golden Plovers has the tip of the upper mandible curved over the lower one to the extent of about 4 mm., with the tip curving decidedly downward almost at right angles, thus forming a veritable crossbill. The cause of this formation cannot be seen, only the upper mandible seems to be rather thin and weak, when compared with that of the other specimen, nor was the bird as fat as the male.—W. F. HENNINGER, *New Bremen, Ohio.*

Wild Turkeys in Illinois.—On July 12, 1905, Mr. F. B. Smiley, 407 Security Bld'g, St. Louis, Mo., informed me that he and party killed, in October, 1903, five Wild Turkeys (*Meleagris gallopavo*) in the "Sante Fe Bottoms" ("Okaw Bottoms"), eight miles south of Bartelso, Clinton Co., Illinois. He also stated that, as far as he knew, these were the last Wild Turkeys ever seen in Illinois. It will be interesting to hear from others familiar with the subject, and to know whether other Wild Turkeys have since been observed in that State.—A. H. FELGER, *Denver, Colo.*

Asio wilsonianus in Shelburne, New Hampshire.—A female American Long-eared Owl was shot on the banks of the Androscoggin River in Shelburne, New Hampshire, early in the morning of October 12, 1908, by Mr. C. D. Bullerwell of Cambridge, Massachusetts. I was visiting in Shelburne at the time and Mr. Bullerwell kindly presented the specimen to me. I have deposited it in the Museum of Mr. William Brewster.

The town of Shelburne is in the White Mountain region about twelve miles northeast of Mount Washington, in the northern part of the State. Mr. G. M. Allen, in his 'List of the Birds of New Hampshire,' published in the 'Proceedings of the Manchester Institute of Arts and Sciences,' volume IV, 1903, page 104, says, in regard to *Asio wilsonianus*: "All the records which I have for this species are from localities in the southern and central part of the State. I have never seen it in the White Mountains."—WALTER DEANE, *Cambridge, Mass.*

A Note on the English Sparrow¹ (*Passer domesticus*).—There is considerable doubt as to the source of the early importations into this country of European House Sparrows, commonly known here as English Sparrows. It is probable, like many of our human emigrants, that the breed is of mixed origin, some having been brought from England, some from Germany. There are certain local differences between the birds from these two sources which need not be discussed here. Our only object is to compare specimens taken in New England between 1873 and 1886, with specimens taken here at the present day, and with specimens taken in England at the present day.

The number of specimens is too few for deductions, but we wish to put certain measurements on record, as it is possible they may some time prove of value. A great dearth of early specimens of this un-loved bird prevails. Those examined are from the collections of Mr. Wm. Brewster and Dr. Townsend, and were all from the Boston and Cambridge region. The present day specimens are all from New England, for the most part from Arlington, Mass., while the present day English specimens were sent to Mr. Hardy in the flesh from the vicinity of Liverpool, England.

The early New England specimens are striking birds, clean, with clear whites, blacks and chestnuts. The delicate wavy lines on the breasts

¹ Read before the Nuttall Ornithological Club, Nov. 9, 1908.

of the females are plainly to be seen. The present day birds both from New England and old England are very dark and sooty, and in consequence lack these characteristics. The differences can be ascribed to feather soiling in their present sooty environments.

The following table gives the measurements in millimeters.

Locality, etc.	Wing.	Tail.	Bill.	Tarsus.
New England 1873-1886				
Average 7 ♂	78.00	56.00	12.64	14.42
" 3 ♀	73.00	53.00	11.66	15.00
New England 1907.				
Average 18 ♂	77.30	56.60	13.18	14.55
" 7 ♀	75.50	55.50	12.95	14.28
England 1907				
Average 8 ♂	75.50	54.70	12.56	15.25
" 17 ♀	72.00	51.80	12.32	13.94

It is seen that the early New England specimens average about the same in size as the present New England specimens, except as regards the bill which averages about 1 mm. larger in the present day bird. The present day English bird averages in wing and tail from 2 to 3 mm. smaller than the present day New England bird. The tarsus is about the same, while the bill corresponds more closely with the bill of the early American bird in being about 1 mm. smaller. In other words it would seem that in the early years of struggle only the more vigorous, larger birds survived and that under favorable conditions the larger size was continued with an added increase in the size of the bill. A larger series may invalidate these conclusions, but they are given for what they are worth.—CHARLES W. TOWNSEND, M. D., *Boston*, and JOHN H. HARDY, JR., *Arlington, Mass.*

Mexican Goldfinch in Colorado.—The undersigned has to record the occurrence of a male Mexican Goldfinch (*Astragalinus psaltria mexicanus*) in Denver on June 30, 1908; the bird was watched for a considerable time feeding in a vacant lot, which is within three blocks of the State Capitol Building, and was as typical and unmistakable as any the writer has ever seen in old Mexico.—W. H. BERGTOLD, *Denver, Colo.*

Northward Range of Ammodramus lecontei.—On May 22, 1908, I saw two Leconte Sparrows on a low marshy flat in the delta of the Athabasca River, on the south side of Lake Athabasca, opposite Fort Chipewyan. Tried for some time to flush a bird, and finally, hearing a faint squeaking in the dry dead grass, rushed noisily forward, and succeeded in scaring one male up on a dead stump and shooting it. I considered this to be rather far north for this species, until I saw a specimen collected by Mr. Harry W. Jones, at Hay River, at the western end of Great Slave Lake, June 23, 1908.—R. M. ANDERSON, *Amer. Mus. Nat. Hist.*, New York City.

Correction.—Dr. Charles W. Townsend has called my attention to the fact that there are two previous records of lark sparrows at Ipswich, Mass.,—one shot by him Aug. 21, 1904, one seen by him Aug. 12, 1905—making our bird of August 28, 1908 (Auk, XXV, p. 476) the third instead of the second record, as I thought.—LIDIAN E. BRIDGE and E. D. BOARDMAN, *West Medford, Mass.*

Breeding of Dendroica striata at Great Slave Lake.—June 24, 1908, while crossing the burned over area on the high rocky center of Moose Island, near Fort Resolution, I stepped across a small dead spruce lying on the ground, and a small plainly colored bird darted from the mass of tall dead grass which surrounded the trunk of the fallen tree. The bird disappeared in the underbrush at once without uttering a sound. Concealing myself, I waited about twenty minutes and the bird stealthily approached the nest hopping from bush to bush, occasionally uttering a sharp, nervous *tsip* like the alarm note of the Junco. The bird proved to be a female Black-poll Warbler. The nest was placed directly on the ground in the middle of a clump of tall grasses, immediately underneath a small, fallen spruce, the trunk of which was lying about ten inches above the ground. The nest was composed of dead grasses, mixed with cottony substances and a little moss, lined with finer grasses, and a few feathers including one tail feather of a Fox Sparrow. The four eggs were advanced in incubation; whitish colored, spotted with light brown tending to form a wreath around the larger end, the wreath more distinct in some specimens than others.—R. M. ANDERSON, *Amer. Mus. Nat. Hist.*, New York City.

The Black-throated Green Warbler as a Nesting Species on Long Island, N. Y.—On July 5, 1908, Mr. Francis Harper, of College Point, L. I., and I observed at close range a male Black-throated Green Warbler (*Dendroica virens*) feeding three newly fledged young about a mile north of Lake Ronkonkoma, L. I. At least one other male was heard singing in the neighborhood. As neither of us had ever before found this bird on Long Island in summer and as no definite record of its having nested there is given in the most recent publication on the birds of Long Island ('A List of the Birds of Long Island,' by Wm. C. Braislin, M. D. *Abstr. Proc. Linnaean Soc. of N. Y.*, Nos. 17-19, pub. Oct. 22, 1907), we were at first dis-

posed to regard the observation as something of a record. In addition, Mr. Wm. Dutcher, who for many years made a particular study of the birds of Long Island, informed me that up to about ten years ago, when he ceased active field work, he had never seen a Black-throated Green Warbler on Long Island.

A further investigation, however, revealed the following two records: by Mr. A. H. Helme of Miller Place, L. I. (Abstr. Proc. Linnaean Soc. of N. Y., Nos. 13-14, 1900-1902, p. 19) that the Black-throated Green Warbler "has been found breeding on Long Island"; and by Mr. Theodore Roosevelt in 'Outdoor Pastimes of an American Hunter' (1908 edition, pages 400-401) where he writes: "It was perhaps due to the same cause (cold and wet season) that so many black-throated green warblers spent June and July 1907 in the woods on our place (Oyster Bay, L. I.); they must have been breeding though I only noticed the males.... The black-throated green warblers have seemingly become regular summer residents of Long Island.... [This bird] as a breeder and summer resident is a newcomer who has extended his range southward." The bird is not mentioned in the earlier (1905) edition of Mr. Roosevelt's book.

Correspondence with these gentlemen elicited the following replies. From Mr. Helme: "The Black-throated Green Warbler is now one of the most abundant breeding warblers in the vicinity of my home. This year there have probably been not less than fifteen to twenty pairs breeding within a circle of three miles from my house. They have greatly increased in numbers during the last ten years. A few years ago I collected a very pretty set of four eggs near Miller Place. This is the only nest I have been able to find, except a couple of old nests that had done service at an earlier date." From Mr. Roosevelt: "Of course my observations of birds around here have been rather fragmentary. Formerly I never found a Black-throated Green Warbler in summer; but both last summer and this summer they have been among our common warblers throughout the nesting season, and have evidently nested and brought up their young here. In June and July the males were singing in many different places for a radius of certainly six miles from my place."

These facts would seem to prove that within comparatively few years the Black-throated Green Warbler has extended its range into the northern parts of Long Island at least; and since inquiry among ornithologists has indicated that the present status of the bird on Long Island is little known, I have incorporated in this form what information I could gather on the subject, with the idea that it might be of interest to readers of 'The Auk.'—
CLINTON G. ABBOTT, *New York City.*

Carolina Wren in Rhode Island.—During the past summer (1908) there have been at least two, and possibly more, Carolina Wrens (*Thryothorus ludovicianus*) resident at Kingston, R. I. They were not noted until late in July, but were then occasionally seen and constantly heard about until September. There is some reason to believe they bred there this

year, but unfortunately the evidence is not certain enough to establish a record. A lady and gentleman noticed a pair of small birds which had a nest in a hole in an apple tree rather late in the season. They did not think they were Chickadees, and no House Wrens were seen in the village this summer. The matter did not come to the writer's knowledge until after the young had flown. Residents of Kingston say that the Carolina Wren has been seen in the village before, but not for several years. The writer is certain from personal observation that it could not have been there in 1907.—LEON J. COLE, *New Haven, Conn.*

The Carolina Wren (*Thyothorus ludovicianus*) at Falmouth, Maine.—On October 3, 1908, a male Carolina Wren was taken at Underwood Springs, Falmouth, Maine, by Mr. Arthur H. Norton, and is preserved in the collection of the Portland Society of Natural History. It had been seen in the vicinity for some weeks previous to its capture, first attracting my attention on August 18, 1908, near the shore at Tawn landing, about an eighth of a mile from Underwood Springs. It was then associated with Robins, Chipping and Song Sparrows. It gave one form of its song, and its alarm note several times. It disappeared in a few moments, but returned to the same locality for two succeeding mornings, at about the same hour of the day.

It was not seen or heard again until about the middle of September, when its song was heard several times, but the bird was not seen. On September 22 it was seen in the same locality of its first appearance, and that day gave several variations of its song, and was very active and alert. From that time it was watched with great interest each day until the day it was taken.

During this period it was constantly in company with large numbers of Robins, Cedar-birds, Chipping, Song and White-throated Sparrows, Warblers, Vireos, Kinglets, Chickadees, Thrushes, Nuthatches, Brown Creepers, Purple Finches, Juncos, and Downy Woodpeckers: it seemed never to leave their proximity, though keeping near the shore, in shrubs and tangles about the vacant cottages.

It evidently remained within the small range of Tawn landing and Underwood Springs, a range of about an eighth of a mile in length and of small width, as it could be found at any time in some part of this section, with the same band of migrants.—MRS. ERNEST BREWER, *Woodfords, Maine.*

Capture of the Short-billed Marsh Wren (*Cistothorus stellaris*) on Long Island, N. Y.—On Sept. 12, 1908, I secured an immature female of this species, at Freeport. The bird associated with a few Long-billed Marsh Wrens in the reeds bordering a small pool of water, where the salt marshes join the mainland.—J. A. WEBER, *Palisades Park, N. J.*

Blue-gray Gnatcatcher (*Polioptila caerulea*) in Washington County, N. Y.—On Aug. 12, 1908, I collected an adult female of this species, in a

swampy tract of woodland, among the hills of Middle Granville, N. Y. I was unable to determine whether the bird had bred in this locality, because the southern migration was well under way at the time.—J. A. WEBER, *Palisades Park, N. J.*

The Bluebird (*Sialia sialis*) in Quebec.—A pair of Bluebirds, uttering their usual call notes, flew over me within a few yards at Tadousac on July 4, 1908. The species is so rare on the north shore of the lower St. Lawrence that this occurrence seems worthy of note, for I know of no other record save that of a pair found nesting by Mr. Comeau in July, 1880, at Godbout (Merriam, B. N. O. C., VII, 1882, p. 234).

The birds I saw were traveling westward and were very possibly far from their nesting ground, as no trace of them was found later in the summer, but the cool breezes of the maritime portion of eastern Canada are not to the liking of this species, which reaches its northern limit not far from the southern boundary line.

Bluebirds occur, sparingly I imagine, about the city of Quebec, although Mr. C. E. Dionne in 'Les Oiseaux de la Province de Quebec,' 1906, states that they are there "assez commun." The summer climate of the city and its environs is, however, much warmer than even fifty miles further down the river where the influence of the cold waters of the Gulf of St. Lawrence begins to be felt.

As I had spent parts of eighteen summers at Tadousac, the pair of Bluebirds was a great surprise, and I am glad they were not of a species about the identification of which there would be the slightest doubt.—J. DWIGHT, JR., *New York City.*

Two Michigan Records.—*Ardea cœrulea*. LITTLE BLUE HERON.—A short time ago I had the pleasure of examining a mounted specimen of this bird, taken May 2, 1882, in the immediate vicinity of Detroit. It is a full plumaged bird in the normal dark phase and was shot by Mr. Wm. S. Smith of 140 Grand River Ave., in whose possession it now is. Accompanying it is a full description written by the taxidermist who mounted it, including colors of fleshy parts while fresh, date, etc. This appears to be the only known Michigan killed specimen now extant, and as such is of some importance.

***Buteo swainsoni*. SWAINSON'S HAWK.**—About the middle of October a bird of this species appeared in the taxidermist shop of Mr. Arthur Borek of this city. Inquiries elicited the information that it had been killed near Hessel, 18 miles from Mackinaw, Mich., by Mr. Clarence Law. As it was already mounted when first seen the sex could not be ascertained. In plumage it closely approaches the dark phase, the underparts being particolored with blotches of fuscous and ochre in about equal proportions, and the back, wing-coverts and head feathers heavily bordered with ochre. I am informed by Prof. W. B. Barrows that this is the second actual specimen for the State. I succeeded in obtaining the bird for my collection, numbering it 1117.—P. A. TAVERNER, *Highland Park, Mich.*

Rare Birds near Springfield, Mass.—*Sturnus vulgaris*. In April, 1908, a Starling was taken in Agawam, near Springfield. It was with a flock of blackbirds. Eleven years ago about a hundred Starlings were liberated here, but they soon disappeared.

Oceanodroma leucorhoa. The last of October a Leach's Petrel was captured alive on the Connecticut River, in the extreme southern part of Northampton. There are numerous records of the presence of this bird here, the earliest being previous to 1839, when W. B. O. Peabody stated that although this bird seemed so bound to the ocean by all its habits and wants, he had one brought him that was taken near Chicopee River, in Springfield, seventy miles from the shore. It has been supposed that these petrels were driven inland by storms, but in October of this year we had no severe gales in New England that were noticed inland at Springfield; in fact, generally currents in the upper air were so sluggish that the numerous balloons that were sent up from this point were unable to cover any great distance, and it is also singular that if the appearance of these birds inland depends on storms, that they should be found here only in autumn and usually in October.

Ammodramus nelsoni subvirgatus. On the sixth of October last, an Acadian Sharp-tailed Sparrow was taken in Longmeadow, near Springfield. This is the first time the presence of one here has been proved, but I believe that its appearance in this vicinity is not so rare as is supposed.—ROBERT O. MORRIS, *Springfield, Mass.*

Notes from West Virginia.—*Sphyrapicus varius*.—On June 17, 1908, I found the nest of a Yellow-bellied Sapsucker in an old dead tree near 'The Sinks' in the southern part of Randolph County. As I watched the old birds, they went back and forth continuously, making very frequent and rapid flights from the nest to a large sugar tree that stood some rods away. When I examined the sugar tree, I found that they had filled with punctures a space on the side of the tree about a foot long and several inches wide. Insects were attracted to these wounds in the bark and the old sapsuckers made th's their hunting-ground. They seemed to have no difficulty in finding abundant food for their young. Two days later I passed this nesting site again. The old birds were still carrying food to their young from the same place. Although I saw them make many trips, coming and going, not a single time did they bring food from any other place. On this same trip into the Spruce Mountain region, I saw great numbers of these birds in different places.

A young female of this species was taken at Horton, near the terminus of the Dry Fork R. R., on June 16. At this place old birds and their young were flying about in considerable numbers. The Yellow-bellied Sapsucker is by far the most common woodpecker breeding in the Alleghenies of central West Virginia at 4,000 feet altitudes.

Corvus corax principalis.—Northern Ravens were seen and heard a

number of times on the summit of Spruce Knob (4,860 feet alt.), June 19-22. While our party was encamped near this highest elevation in West Virginia we hoped to find this species breeding, but failed to do so.

Junco hyemalis carolinensis.—I find this note concerning the Carolina Junco, made while on the summit of Spruce Knob. "Nest of Carolina Junco, under edge of stone; lined well with dry grasses; in bed of blooming *Cornus canadensis*; four eggs." All nests found on the almost bare top of this mountain were similarly placed under the edge of protecting rocks.

Oporornis philadelphia.—At the edge of an old 'burning' near the summit of Spruce Knob, Mourning Warblers were seen. As we came down the mountain on the afternoon of June 19, we found old birds feeding their young. The rich song of this species was heard almost constantly on some parts of this mountain. An adult male was taken as it sang on the border of a large tract of rather dwarfed black spruce trees near the top of the knob. I have never seen this warbler in any other part of the Alleghenies in the breeding season.

Thryomanes bewickii.—Bewick's Wren is the common 'house' Wren of western, southern, central and northern West Virginia. This species is exceedingly common in many sections in the central part of the State, and by no means rare in any of that large region mentioned above. As one goes eastward from the interior of the State, he finds, near the summit of the Alleghenies, that *Troglodytes aëdon* replaces this species. At Horton, on June 16, four species of wrens — Carolina Wren, Bewick's Wren, Winter Wren, and House Wren — were all heard in full song.

Regulus satrapa.—I took an adult male Golden-crested Kinglet on top of Spruce Knob on June 18. Two of these birds were flying about in the tree-tops.

Hylocichla fuscescens.—On an old fallen spruce log, half-hidden by branches of hemlock and Allegheny Menziesia, at the foot of Spruce Knob, we found a nest of the Wilson's Thrush. On June 20 it contained four eggs. I found this species in abundance in many of the higher sections of the State while on my trip to the mountains in the middle of last June.

Hylocichla ustulata swainsonii.—A nest of the Olive-backed Thrush was found in the top of a little spruce, on June 19, near the top of Spruce Knob. It contained one young bird and three eggs. I saw several birds of this species near the same place. It seems that this nest of mine makes the most southern record of the breeding of the Olive-backed Thrush.—
EARLE A. BROOKS, Weston, W. Va.

Colorado Notes.—**Cyanocitta cristata.** **BLUE JAY.**—Mr. B. G. Voigt informed me a short time before his death that a Blue Jay, which I examined, had been killed by him half a mile east of Limon, Colorado, in October, 1898. Mr. H. G. Smith's note on this species published in 'The Auk' (Vol. XXII, pp. 81, 82) was taken at Wray, Colorado, just over the Nebraska line. Wray is 165 miles a little north of east of Denver on the

C. B. and Q. Ry., and Limon is 90 miles at about the same angle south of east of Denver on the U. P. Ry. This brings the little thief that stole hazelnuts which I, year after year in my boyhood days, gathered and spread upon the woodshed roof to dry, 75 miles closer to my present home: and I wonder if the little tormentor is following me here to steal the hazelnuts that I purchase in the Denver market. I wish that I might calculate his westward progress, but I cannot, for this Blue Jay at Limon was killed four years before those were observed at Wray.

Echmophorus occidentalis. WESTERN GREBE.—I have in my collection a skin of one of these birds taken Nov. 9, 1902, at Citizens' Lake, west of Fort Logan and a few miles southwest of Denver, Colorado. Mr. H. G. Smith reports (Nidologist, III, 1896, p. 48) three of this species for Colorado, and Mr. W. W. Cooke also reports (Birds of Colo., p. 191) three of this species for this State. There are no other records for our State as far as the writer knows.

Prozana carolina. SORA RAIL.—Sept. 2, 1903, I found dead on the surface of the ice near the terminal moraine of Arapahoe Glacier a bird of this species in a rather bad state of decomposition. The altitude of Arapahoe Peak (Bull. 274, U. S. Geol. Surv. p. 139) is 13,500 feet, and the place on Arapahoe Glacier, which lies at the foot of Arapahoe Peak, where the bird was found is perhaps 1000 feet less in altitude.

I desire to ask Mr. W. W. Cooke, or anyone else who is studying bird migrations, whether it is usual for birds of the rail group to migrate at such an altitude. This is about 3,500 feet higher than is indicated in the note by Mr. Cooke (Birds of Colo., p. 199), where he says that it "breeds from Middle Park up the Blue River to about 9,000 feet." If it breeds at such an altitude, I would expect it to move down nearer the plains before starting on its southern flight. Possibly we may yet find it breeding at the lakes below Arapahoe Glacier, but thus far neither Judge Junius Henderson of Boulder, Dr. W. H. Bergtold of Denver nor I, all of whom together studied the birds of that vicinity, have found a living specimen there.—
A. H. FELGER, *Denver, Colorado.*

Notes of Occurrence and Nesting of Certain Species additional to the 'Birds of Colorado.'¹—***Gallinago delicata.*** WILSON'S SNIPE.—Has been found nesting with regularity for the past five years, and in fair numbers, about the marshes and farming region of a locality in Boulder County, ten miles northeast of Boulder City.

Callipepla squamata. SCALED PARTRIDGE.—An abundant resident the year round throughout the farming region on both sides of the Arkansas River, from Pueblo east to the Colorado-Kansas State line; there is scarcely a farm that does not have from one to three flocks about the

¹ The Birds of Colorado, by W. W. Cooke. March, 1897. Further notes on the Birds of Colorado, by W. W. Cooke, an appendix, to the above, March, 1898, and a Second Appendix to the Birds of Colorado, by W. W. Cooke, May, 1900.

buildings, to which the birds hold very close during the winter. In the spring, a few nests are placed in the garden and other locations, close to the protecting influence of the household. I have observed the birds to be far more quiet and approachable, by persons to whom they were accustomed, than any 'Bob-whites' which have come under my observation.

Columba fasciata. BAND-TAILED PIGEON.—It is not unusual to see small flocks of these birds in Estes Park. I have observed them every summer, mostly during the latter half of the summer, indicating their nesting at some other locality with a late summer movement or flight.

Otus flammeola. FLAMMULATED SCREECH OWL.—One nest with female bird found and taken in Estes Park, June 15, 1903; now in Collection at the State Agricultural College, Fort Collins, Colo. Also one nest with female taken from same vicinity, June 18, same year, now in the Collection of the Hon. J. E. Thayer, Lancaster, Mass.

Myiarchus cinerascens. ASH-THROATED FLYCATCHER.—A specimen of this bird, with nest and eggs, taken in the Naturita Valley, southwestern Colorado, by C. H. Smith, was sent to me for identification. Mr. Smith reports it as "a summer resident, fairly common."

Empidonax traillii. TRAILL'S FLYCATCHER.—Found nesting June 30, 1904, west of Estes Park, at an elevation of 10,000 feet. Also found nesting at a slightly lower elevation, but in the same country, July 5, 1905. Both nest situations were identical, in that they were located three and four feet from the ground, upon a root of the upright stand, formed by the roots and adhering dirt of large overturned pine trees. Surroundings wet and swampy.

Corvus corax sinuatus. AMERICAN RAVEN.—A constant resident in the heavy cañon of the San Miguel River, southwestern Colorado. Nests are situated on inaccessible ledges against the cañon wall midway between top and bottom. If the nest is disturbed the birds will choose a more difficult place for another nest, giving evidence of an instinct far superior to that of the Golden Eagle in this respect. If not disturbed the same nest is used from year to year.

Coccothraustes vespertinus montanus. WESTERN EVENING GROSBEAK.—In August and September of 1902, I found young birds at two places in the mountains, between my farm at the foot-hills, Boulder Co., and Estes Park. In 1903 the birds were abundant throughout Estes Park and westward to higher altitudes, 7500 to 9500 feet. In 1904 they were equally abundant, but during the following three years they were absent from that locality.

On July 4, 1903, a nest was found in Estes Park, at an elevation of approximately 9000 feet. It was in a large pine tree, on a heavily wooded hillside, and about forty feet from ground, halfway out on a long limb and dangerous to obtain.

Amphispiza nevadensis. SAGE SPARROW.—One specimen, male, taken at my Boulder County farm, east of the foot-hills, March 18, 1904.

Guiraca cærulea eurhyncha. WESTERN BLUE GROSBEAK.—During

June, 1902, I observed several pairs about the farm in Boulder County and took two specimens. I say 'pairs' because they were thus found and not in flocks.

Catherpes mexicanus conspersus. CAÑON WREN.—Somewhat common constant resident, through the lower foot-hill elevations of Boulder County. That this species has been persistently overlooked, I can only account for by the fact of their being such an early spring breeder.

While investigating the nests of two pairs of Golden Eagles on March 27, 1907, I was agreeably surprised to find a pair of these wrens conveying nesting material to a ledge in a small cañon. With snow in abundance on the north slopes, I sat in the sun and watched them for over two hours. As this was my first acquaintance, I shall never forget the impression made by the volume and clear, whistle-like effect of their few notes,—not shrill, but filling the cañon with a volume and penetration out of proportion to a bird so small. I returned to this locality one week later, April 4, 1907, and found the nest completed, but containing only three eggs, which we did not disturb. The nest was in a sheltered crevice, on a rock projecting from the face of a sixty foot cliff. My young friend went down a rope to the site, from above; the only possible way of reaching it. Mr. Brunning, at whose place I was staying, mentioned three localities in which were the nesting sites of this wren. One, an upper ranch (altitude 7000 feet), and two near-by mining locations on which he worked at odd times during the year. He states that "the birds would appear each year about Thanksgiving time, remain all winter and through the spring but disappear during the summer." It did not occur to him to make note of their time of leaving, until he realized they were gone (a common difficulty with fall migration data).

Such an early nesting date, has been equalled or exceeded only by three species in northern Colorado, viz., the Mexican Crossbill, Great Horned Owl and Golden Eagle.

Thryothorus bewickii bairdi. BAIRD'S WREN.—Has been taken nesting in the Naturita Valley, southwestern Colorado, by C. H. Smith, a reliable observer, who reports it as "not common in his locality."—FRED. M. DILLE, Denver, Colo.

RECENT LITERATURE.

Chapman's 'Camps and Cruises of an Ornithologist.'¹—Says the author: "During the past seven years, with the assistance of artist and preparateur, I have devoted the nesting season of birds to collecting specimens and making field studies and photographs on which to base a series of what have been termed 'Habitat Groups' of North American birds for the American Museum of Natural History. These groups," it is further stated, "are designed to illustrate not only the habits and haunts of the birds shown, but also the country in which they live." The groups, therefore, contain not only the birds, with their nests and young, placed in a facsimile reproduction of their original surroundings, but the background forms an accurate panoramic representation of the adjoining country. Thus is shown not only the character of the immediate location of the nest, but a considerable area characteristic of the haunts of the species, reproduced from studies by the artist on the spot, aided by photographs. Thus are introduced various types of physiographic conditions, which render the groups geographically as well as ornithologically instructive. They are unrivaled by any similar reproductions elsewhere, no expense having been spared to secure accuracy of detail, while the panoramic backgrounds, some of them nearly thirty feet in length, give ample space for comprehensive scenic effects.

The assembling of all this material entailed extensive journeys, and the results accurately portray strikingly diverse types of country, ranging from subtropical scenes in the Bahamas and the Everglades of Florida to the deserts of Arizona, the prairies and badlands of Nebraska and Wyoming, the irrigated lands of interior California, the marshy lakes of Oregon, and the alpine summits of the Rocky Mountains in Alberta, as well as marshes and cliffs nearer home. To quote again from the author's preface: "No ornithologist, I imagine, has ever pursued his calling with greater pleasure and satisfaction than I have experienced in gathering the material and data for these groups of birds. Not only has it been my fortune to behold some of the most interesting and remarkable sights in the world of birds, but it has been my privilege to have them reproduced in so admirable a manner that they convey to others a wholly adequate conception of the scene itself." The purpose of the present book is "now further to perpetuate these experiences and studies by telling the story of the various expeditions of which the groups were the objects, adding such information concerning the birds observed as seems worthy of record, and illustrating

¹ *Camps and Cruises of an Ornithologist* | By | Frank M. Chapman | Curator of Ornithology, American Museum of Natural History | Fellow of the American Ornithologists' Union; Author of | "Handbook of Birds of Eastern North America" | "Bird-Life"; "Bird Studies with a Camera," etc. | With 250 photographs from Nature | by the Author | New York | D. Appleton and Company | 1908 — 8vo, pp. xvi + 432, with 250 half-tone illustrations. November, 1908. \$3.00 net.

the whole with many photographs from nature and a number of the groups themselves."

The book is divided into eight parts, as follows: Part I, 'Travels about Home,' in which are treated The ways of Jays, A morning with Meadow-larks, Bird-nesting with Burroughs, A Nighthawk incident. Part II, 'The Bird-life of two Atlantic Coast Islands' — Gardiner's Island and Cobb's Island. Part III, 'Florida Bird-life' — Pelican Island, the Florida Great Blue Heron and the Water Turkey, the American Egret, Cuthbert Rookery. Part IV, 'Bahama Bird-life' — the Flamingo, the Egg Birds, the Booby and the Man-o'-War Bird. Part V, 'The Story of Three Western Bird Groups' — the Prairie Hen, a Golden Eagle's nest, Cactus Desert Bird-life. Part VI, 'Bird Studies in California' — the Coastal Mountains at Piru, the coast at Monterey, the Farallones, the San Joaquin Valley at Los Banos, Lower Klamath Lake, the Sierras. Part VII, 'Bird-life in Western Canada' — the Prairies, the Plains, the Mountains, the White Pelican. Part VIII, 'Impressions of English Bird-life,' and indexes. An 'Introduction' of eight pages reveals to the reader some of the methods and devices by which the photographic results shown in the present volume were obtained.

The foregoing will sufficiently explain the scope, purpose, and general character of this exceptionally interesting and, in many respects, remarkable book, where a wealth of photographic illustrations so effectively supplements the text. It remains therefore only to say that the story of these varied experiences is most modestly yet effectively and pleasingly told, without resort to anything beyond simple and direct statement of events, more varied and opportune than has probably ever before fallen to the lot of an ornithologist. There were, of course, mishaps and unpleasant experiences, but they leave slight trace in the author's narrative, so full of new, first-hand information about birds whose home-life was previously, in many cases, by no means well known. The book is appropriately dedicated to Hermon C. Bumpus, Director of the American Museum of Natural History, and "to those members of the Museum whose co-operation made possible the work on which it is based." — J. A. A.

Preble on the Birds of the Athabasca-Mackenzie Region.¹ — This admirable work of nearly 600 pages and numerous illustrations is based mainly on the field work of Mr. Preble during two expeditions, the first in 1901, the second in 1903-'04. The publication of the report having been unavoidably delayed till the present year (1908), it represents the state of knowledge of the region down to the spring of 1908. It includes

¹ *A Biological Investigation of the Athabasca-Mackenzie Region.* By Edward A. Preble, Assistant, Biological Survey. Prepared under the direction of Dr. C. Hart Merriam, Chief of Bureau of Biological Survey. — *North American Fauna No. 27, October 26, 1908.* 8vo, pp. 574, *pl. i-xxv* (including map of the region), and 16 text figures. *Birds*, pp. 251-500.

not only annotated faunal lists of the mammals, birds, reptiles, batrachians, and fishes, and trees and shrubs of the region, but a very full description of the physical geography and climatology of the Mackenzie Basin, a detailed account of the routes traversed by Mr. Preble and his assistants (his brother Alfred E. Preble, in 1901 and 1903, and Merritt Cary in 1903), and a summary of the previous explorations and collections made in the region. The work has been so well done that Mr. Preble's report will remain for all time a standard source of information on the biology and early explorations of this immense and hitherto much neglected area. In 1903-'04, Mr. Preble passed the winter at Fort Simpson, and thus had an opportunity to become familiar with winter conditions at this remote subarctic post.

Each of the different physical areas, from the Athabasca Valley to the Barren Grounds, is separately treated in detail. The life zones of the Athabasca-Mackenzie region — the Arctic, Hudsonian, and Canadian — are illustrated by a colored map (plate ii), based on very thorough knowledge of the subject, Mr. Preble's previous explorations in the Hudson Bay region¹ being of special service in mapping the country bordering Hudson Bay.

The ornithological portion of the report (pp. 251-500) forms an elaborately annotated list of the (approximately) 293 species and subspecies "authoritatively recorded from the region treated in the present report. In the account of each species," says the author, "our own observations are usually given first, in chronological order, the published records following. Of the published references relating to the various species only those have been utilized which best represent the distribution, dates of migration, breeding, and other interesting features of their life history, preference usually being given to the notes earliest published." Authorities are given in footnotes, in place of the immensely inconvenient method of giving references to titles scheduled at the end of the work, now so much in vogue; notes not accompanied by references "are derived from manuscript records or verbal communications," and are duly accredited in the text. The classification and nomenclature is that of the A. O. U. Check-List, including the many changes of the Fourteenth Supplement. The A. O. U. Code is strictly followed in respect to the authority for specific and subspecific names, which is to be enclosed in parenthesis *only when the species or subspecies is used in combination with a generic name different from the one employed by the original describer.* This was the original intent of the use of the parenthesis for authorities, but in recent years the names of authorities have by many writers been improperly placed in parentheses to denote not only this, but any change in the status of the species or subspecies from the original designation.

An annotated bibliography of 23 pages — from Hearne, 1791, to Seton,

¹ A Biological Investigation of the Hudson Bay Region, North Amer. Fauna No. 22, 1902.

1908 — is a valuable guide to the literature of the subject, and will be of great use to future investigators of this general region. The large number, of half-tone plates and text figures are an important addition to the report and include, besides maps of the general region and of the life zones, several distribution maps for the more important species of mammals, many landscape views, and views of the Hudson Bay Company's posts, including some of the old Forts of the early days — landmarks of the greatest historic interest. As already implied, Mr. Preble's report is a mine of information regarding the early exploration and present and past conditions of the vertebrate fauna of arctic and subarctic Canada.— J. A. A.

MacFarlane on the Birds of Northwestern Canada.¹ — In 1891 Mr. MacFarlane published in the 'Proceedings' of the U. S. National Museum (Vol. XIV, pp. 413-446) his 'Notes on and List of Birds and Eggs collected in Arctic America, 1861-1866.' The present 'List of Birds and Eggs' covers a subsequent period (1880-1894) of the author's explorations, and relates mainly to observations made "in the northern portions of the new Province of Alberta; in New Caledonia, in British Columbia; and Cumberland, in the Province of Saskatchewan." The observations are fragmentary, and the reader will share with the author his regrets that he did not continue "at Forts Simpson, Chipewyan, St. James and Cumberland House, where he was successively stationed from 1866 to 1894," his observations with the same interest and assiduity as at Fort Anderson in previous years. His shortcomings in this respect he holds up as a warning and a stimulus to the officers of the Hudson Bay Company and others who may visit or traverse northern Canada as surveyors and prospectors to do whatever they can "in the way of elucidating and otherwise advancing the Natural History of the great Dominion."

The list includes about 220 species, the annotations averaging rather more than a page to each; while they include much original information they are often extended by quotations from various published sources, notably from Bendire's 'Life Histories of North American Birds.' These, however, are always pertinent, since much of MacFarlane's ornithological material was sent to the Smithsonian Institution, and passed through Major Bendire's hands, thus forming his principal source of information on the nesting habits and breeding ranges of northern birds. Incidental reference is made, under nearly every species, to the manner of its representation in the Ottawa (Dominion) Museum, with a view of inspiring

¹ Through the Mackenzie | Basin | a Narrative of the Athabasca and Peace River | Treaty Expedition of 1899 | By | Charles Mair | English Secretary of the Half-breed Commission; Author of | Tecumseh: a Drama, etc. | With a Map of the Country Ceded and numerous photographs of | Native Life and Scenery | Also | Notes on the Mammals and Birds of | Northern Canada | By Roderick MacFarlane | Retired Chief Factor of the Hudson's Bay Company | — | Toronto | William Briggs | 1908 — 8vo, pp. 494, map, and 25 half-tone plates.— 'List of Birds and Eggs observed and collected in the North-West Territories of Canada, between 1880 and 1894,' by R. MacFarlane, pp. 285-447. \$2.00; by mail, \$2.25.

interest in its deficiencies. To a certain extent, the present 'List' gives a résumé of the results of MacFarlane's long period of natural history work in northern Canada, and as such is a contribution of unusual interest. The numeration and nomenclature are those of the A. O. U Check-List, but through some inadvertence, a number of the water birds follow the Passeres, with no note of advice or warning that such is the case. Also, on p. 422, the heading "636. Black and White Warbler — *Mniotilla varia* (Linn.)" is given twice; as its second use evidently relates to that species, the preceding species is left nameless and not easily identifiable.

Mr. MacFarlane's 'Notes on the Mammals,' occupying pages 151-283, and preceded by a portrait of the author, is an especially important contribution to the mammalogy of the region, the statistical and geographical information respecting many of the fur-bearing animals being exceedingly valuable. The nomenclature of the list "has been carefully revised by the naturalists of the U. S. National Museum," and is hence fully up to date, and stamps the list as thoroughly trustworthy.

Mr. Mair's portion of the work, occupying the first 150 pages, gives a vivid picture of the topographic and climatic conditions of the country traversed by the treaty expedition of 1899, of which he was a member, and contains also much historic information of fascinating interest. Mr. MacFarlane's portion of the work contains descriptions and illustrations of a number of the old Hudson Bay Company's posts, the names of which have long been household words in natural history annals — Forts Anderson, McPherson, Chipewyan, Resolution, Good Hope, etc.— J. A. A.

Knights' 'The Birds of Maine.'— In a portly volume¹ of nearly 700 pages, Mr. Knight has given the ornithological public a useful manual of the bird fauna of the State of Maine. The analytical keys and the descriptions of the species, it is stated, are compiled and adopted from Ridgway's 'Manual' and 'Birds of North and Middle America,' Chapman's 'Hand-book,' and other standard sources. The descriptions are followed by a brief summary of the distribution, including breeding and winter ranges, followed by the county records of the species, with the authorities, a list of which is given in the Introduction. The life histories are largely based on the author's own observations and experience, and vary in length, according to the species, from a half page to several pages, and relate mainly to the bird's occurrence in Maine. The nomenclature is that of the A. O. U. Check-List and its Supplements down to the Thirteenth, the Four-

¹ The Birds of Maine | With Key to and Descriptions of the various | species known to occur or to have occurred | in the State, an Account of their Distribu- | tion and Migration, showing their relative | abundance in the various Counties of the | State as well as other regions, and con- | tributions to their Life Histories | By | Ora Willis Knight, M. S. | Member of Maine Ornithological Society, Member American Chemical Society, | Member American Ornithologists' Union, Etc., Bangor, Maine | 1908 — 8vo, pp. vii + 693, map, and 25 half-tone plates. \$3.50, express paid. Regular edition, 200 copies; subscription edition, 300 numbered and signed copies.

teenth Supplement having appeared too late to be available. The number of species admitted is 327, including 2 introduced species, classified in the 'Summary' following the main text as: permanent residents, 26; summer residents, 115; migrants, 75; winter residents and winter visitants, 40; accidental and casual, 67; 3 are extinct and one other nearly so. In the 'Summary' these several classes are enumerated, with an indication of their distribution within the State, those chiefly or entirely confined to the Canadian fauna being designated by an asterisk. Thirty additional species are given in a 'Hypothetical List,' which includes not only "species which may be almost certainly expected to occur, though not as yet positively detected," but others that have been included in previous lists on erroneous evidence, and "never likely to occur here."

Following the 'Summary' is a section on 'Faunal Areas,' illustrated by a map, from which it appears that the southwestern part of the State is Alleghanian and most of the rest of the State Canadian, the Hudsonian being limited to the summits of the higher mountains and to a few points along the coast, from Mount Desert Island eastward. A narrow strip of Canadian extends westward along the coast, backed by the Alleghanian inland. A 'Bibliography' of about 130 titles, arranged chronologically, and an index, complete the volume.

'The Birds of Maine' is well planned and evidently written with great care and pretty full knowledge of the subject. It has, however, its faults of detail, which, while they may not seriously impair its usefulness, are to be regretted. The author's style, while generally good, lapses here and there into colloquialisms and infelicities which somewhat mar the dignity of a work of such importance. As examples may be cited the reference to the Redpolls in the 'Key to the species of Fringillidæ,' the account of the feeding of young Goldfinches, the constant use of pair for pairs ("ten pair," "1000 pair," etc.), and Accentator for Accentor, etc. While the author follows the A. O. U. Check-List, as regards the status of forms, he has done so in a few instances under protest, in some cases with reason, as shown by the Fourteenth Supplement, published since his book went to press, in others through inadequate knowledge of the forms in question. There are few typographical errors in the technical names; but we regret to note that the records of local occurrences, in the case of the rarer species, particularly of some of the water birds, are incomplete, especially as regards the latest published information regarding their distribution on the Maine coast. This, however, may be due to the long time the book was in press, since the omissions relate mainly to the early part. Although the late Dr. Wyman's paper on the occurrence of remains of the Great Auk on some of the islands of Casco Bay is given in the bibliography there is no reference to it under the species; and the winter records for the Myrtle Warbler refer only to Cape Elizabeth, omitting others of equal interest relating to other localities. These are but examples of a number of omissions in respect to details of sometimes considerable importance. Unpublished records are often not clearly distinguished from those that have been

published; to have made this distinction, in the case even of only the rarer species, would of course have considerably increased the size of the book, and for this reason may have been omitted, but the omission is an inconvenience to the worker in search of the historical sequence of records. In brief, Mr. Knight has given us such a good book on the Birds of Maine that we regret to find it not an entirely up-to-date authority on Maine ornithology.—J. A. A.

Godman's 'Monograph of the Petrels.'—Part III of this excellent Monograph¹ contains descriptions of 29 species, of which 27 are figured. Twenty-three of the species belong to the genus *Astrelata*, of which three appear to be known only from the original types. *Priofinus gelidus* of recent authors (ex *Procelaria gelida* Gmelin) is apparently referred to *Puffinus kuhli*, the author recognizing only one species of *Priofinus*, and correcting the faulty synonymy given by Salvin.

The species treated in the present Part are many of them little known in life, so that nothing can be said of their habits and distribution. As in the previous Parts of this work, the biographies of the well-known species are given at considerable length, as is the general history.—J. A. A.

Gadow's 'Through Southern Mexico.'²—Dr. Gadow's account of his travels in southern Mexico is not to any great extent ornithological, the reptiles and general character of the country visited being the principal theme. The work is well written and thoroughly interesting from beginning to end, the author's style being terse and graphic, and the subjects treated include the physiographic features of the country and their relation to the fauna and flora, its present and former human population, with descriptions of the celebrated ruins of Tepotzlan, Milta, and Monte Alban, a discussion of the 'Toltec question,' the Aztec hieroglyphs, and the calendric system. The author made many excursions to out of the way places reached only by pack trains, his explorations including the low coastlands, the interior plateau, and the Volcanoes of Popocatepetl and Iztaccihuatl. Interspersed with interesting incidents of travel are discussions of the effect of environment upon animals and plants, colors and patterns, convergent development, the struggle for existence, 'warning' colors, and adaptive modifications. The information regarding the general character of the country and its varied inhabitants, human, animal and vegetable, is varied and explicit, and one can hardly turn to a better book for information regarding southern Mexico. The numerous illustrations relate to a great variety of subjects and are valuable adjuncts to the text.—J. A. A.

¹ Part III, pp. 153-232, plates I-Lxxviii. September, 1908. For notices of previous Parts see Auk, XXV, 1908, pp. 244, 338.

² Through Southern Mexico | being an account of the travels of a Naturalist | By Hans Gadow | M. A., Ph.D. | F. R. S. | With over one hundred and sixty full page and other illustrations and maps | Witherby & Co. | 326 High Holborn London | 1908 — 8vo, pp. xvi + 527, maps, numerous half-tone plates and text figures.

Report on the Immigration of Summer Residents in England and Wales in the Spring of 1907.—The third Report of the Committee appointed by the British Ornithologists' Club on the spring migration of birds into England and Wales forms Volume XXII of the British Ornithologists' Club, bears date October, 1908, and relates to the spring migration of 1907,¹ with also some notes on the fall migration of 1906. The number of species 'scheduled' is 33, the arrivals of 30 of which are indicated by maps for each. There is a "summary of the records" for 65 additional species, for which in most instances the observations are few. The notes on migratory movements during the autumn of 1906 relate to about 25 species.

This third report, so far as it relates to the spring immigration of 1907, "does not differ much from its predecessors, and, as before, deals solely with the movements of the year, no attempt having been made to compare it with the previous year's records." The season was somewhat exceptional, "for though the latter part of March was brilliantly fine, wintry weather was experienced throughout the whole of April....Stragglers of various species appeared at a somewhat early date; but the main body of birds arrived later than usual, and the immigration was at its height during the early part of May. As a result of this the 'rushes' or waves of immigrants were less marked and the actual period was in many cases considerably prolonged." As in previous Reports, a daily account is given showing the condition of the weather and the arrivals of birds, in parallel columns. The report closes with a list of observers, about 200 in number, and their location by counties.—J. A. A.

The Heath Hen.²—The Report of the Chairman (Dr. George W. Field) of the Massachusetts Commissioners on Fisheries and Game for the year 1907, gives the present status of the bird in its last foothold on the island of Martha's Vineyard, Massachusetts. Besides a brief summary of its former range and early widespread extirpation, there are several pages devoted to an account of its present status and habits as personally observed by Dr. Field and his assistant Mr. Gates in May, 1906, and recommendations of measures to be taken to ensure its protection and future increase.

¹ Report on the Immigration of Summer Residents in the Spring of 1907: Also Notes on the migratory movements during the Autumn of 1906. By the Committee appointed by the British Ornithologists' Club — Bulletin of the British Ornithologists' Club, Vol. XX, October, 1908. Pp. 202, with 30 maps.

The previous reports of the Committee are, 1st, for 1905, 2d, for 1906, and form respectively volumes, XVII and XX of the 'Bulletin' of the British Ornithologists' Club, noticed in this journal as follows: Auk, XXIII, Oct. 1906, p. 472; *ibid.*, XXIV, July, 1907, p. 357.

² A Report upon the Eastern Pinnated Grouse or Heath Hen (*Tympanuchus cupido*). An anonymous repaged reprint of 13 pages, from the Forty-second Annual Report of the Massachusetts Commissioners on Fisheries and Game for the year ending December 31, 1907.

On January 11, 1908, the number of birds existing on the island "was not less than 55 nor more than 60." While it appears to be most at home in the scrub oak and pitch pine barrens, it is believed that it could be naturalized once more in almost any section of the State. Fortunately it has the protection "of the best public opinion in the island," and with the thorough precautions for its preservation and increase adopted by the game commissioners of Massachusetts, under a special act of the legislature providing for it a reservation of 1,000 acres of unimproved lands on Martha's Vineyard, its future increase seems assured. The Report closes with a list of subscribers to a fund for the purchase of land for a reservation and for guarding such reservation from forest fires, the total sum here reported amounting to \$2,420. Aside from the economic and practical bearing of the report, it is a valuable contribution to the life history of this interesting species.—J. A. A.

Woodruff on Causes of the Scarcity of the Ruffed Grouse.¹—The marked scarcity of the Ruffed Grouse in the northeastern States in 1907 has been attributed to various causes; from Dr. Woodruff's investigations it seems to have been due to a combination of a number of untoward conditions. These are primarily "(1) The unusual abundance of foxes, and, particularly, goshawks during the winter of 1906-1907. (2) The extremely cold, wet, and late spring of 1907. (3) An epidemic of some disease or parasite, or both, just which we cannot now determine." He considers the cold, wet, late spring to have been unquestionably the most serious, and that to this was indirectly due the destruction of most of the adult females and young, through the impairment of their vitality so that they readily succumbed to disease or the attacks of parasites.—J. A. A.

Forbush on the Economic Value of Birds to Agriculture.—For a number of years the writings of Mr. Forbush have been among the most important contributions to the subject of economic ornithology. They have consisted mainly of reports prepared by him as ornithologist to the Massachusetts State Board of Agriculture, and published by the State. Of several of these² a second edition, revised to June, 1908, has recently been issued, showing that their importance is duly recognized by the Massachusetts State Board of Agriculture. As they were duly noticed in these pages when first published, a further account of them in the present connection is unnecessary, although some new matter is added and other changes introduced in these revised editions.—J. A. A.

¹ The Ruffed Grouse. A Study of the Causes of its Scarcity in 1907. By E. Seymour Woodruff. Pp. 22. (A repaged reprint from the Thirteenth Annual Report of the Forest, Fish and Game Commission of the State of New York.)

² (1) Two Years with the Birds on a Farm. By Edward Howe Forbush. Second edition, 1908, pp. 44, with 8 illustrations. (2) Birds as Protectors of Orchards, Third edition, June 1908, pp. 19. (3) Special Report of the Decrease of Certain Birds, and its Causes with Suggestions for Bird Protection. Second edition, June, 1908, pp. 118.

Carriker's 'Notes on Costa Rican Formicariidae.'—These notes¹ record *Myrmotherula axillaris* (Vieill.) as new to Costa Rica; give *Drymophila stictoptera* Lawr. as the male of *D. lamosticta* Salvin; raise *Myrmelastes exsul occidentalis* Cherrie to a full species; and discuss the range in Central America of the light and dark forms of *Cercomacra tyrannina*.—J. A. A.

Craig on the Voice in Pigeons as a Means of Social Control.²—The author considers (1) Social Development of the Young; (2) Social Life of Breeding Birds; (3) Social Relations outside of the Family. The present paper is announced as preliminary to a book on the general subject of the development of bird songs which the author hopes soon to publish, giving the results of several years of investigation of the subject. His conclusions are that utility of the voice in birds is of much wider scope than has hitherto been suspected. "The voice," he observes, "is a means of social control: that is to say, the voice is a means of influencing the behavior of individuals so as to bring them into coöperation, one with another." The illustrations are here drawn from the domestic pigeon. He claims that a bird is not "the good machine that naturalists have supposed it to be. No internal machinery, no system of instincts, be it ever so perfect, could carry an individual dove through the vicissitudes of social life without the agency of social control....what is meant is, that to treat the behavior as instinctive is to give it an inadequate description. The inadequacy consists in studying the individuals, and in treating the individual as a distinct entity. What is needed is, to transcend this individualistic view point, and to see that the instincts of the individual can effect their purposes only when they are guided and regulated by influences from other individuals." The song is considered as one means of social control, and its uses are found to be numerous and complexly interrelated, of which a partial list is given.—J. A. A.

Taverner and Swales on the Birds of Point Pelee, Ontario.³—Point Pelee, near the western end of Lake Erie, "forms the most southern point of the main land of the Canadian Dominion." It is V-shaped, two long low sandbars enclosing a "swamp of varying degrees of wetness," and several small ponds, while portions are wooded. It thus forms a resort for all classes of birds. It also seems to form a well marked migration route for a large area to the northward, and is further, according to the authors, tinged with such intrusive southern forms as the Cardinal, Yellow-breasted Chat, Blue-gray Gnatcatcher and Carolina Wren, which "have

¹ Notes on Costa Rican Formicariidae, By M. A. Carriker, Jr. Ann. Carnegie Museum, V, No. 1, 1908, pp. 8-10.

² The Voices of Pigeons regarded as a means of social control. By Wallace Craig. Amer. Journ. of Sociology, XVI, No. 1, July, 1908, pp. 86-100.

³ The Birds of Point Pelee. By P. A. Taverner and B. H. Swales. The Wilson Bulletin, Vol. XIX, 1907, pp. 37-53, 82-99, 133-153; Vol. XX, 1908, pp. 79-96 107-129. Also separate.

formed permanent settlement here." "Taken all together, the bird life of Point Pelee, the islands adjoining and the opposite American shore forms a subject of absorbing interest and ground where migrational phenomena of the Great Lakes can perhaps be studied to better advantage than anywhere else in this section."

In an introduction of about ten pages the location and the physical and biotic conditions of the locality are described in detail, following which is an extensively annotated list of 209 species positively identified as occurring in this limited area. Supplemental notes follow, with comment on hypothetical migration routes.

The list is based on the combined "Notes of the members of the Great Lakes Ornithological Club, a small organization formed for the purpose of coöperation and intensive study of the birds of the Great Lakes Region," the observers particularly mentioned including, besides the authors, W. E. Saunders, J. H. Fleming, A. B. Klugh, J. E. Keays, and others.—J. A. A.

Rockwell on the Birds of Mesa County, Colorado.¹—This carefully compiled list¹ "includes 203 species, 159 of which have been definitely recorded for Mesa County, while the remaining 44 species.... will probably be reported from there in the future." They are wide-ranging species, included on the basis of their known occurrence in contiguous districts, and are distinguished by being printed in smaller type than the others. The list is based primarily on the author's knowledge of the birds of the county gained during a residence there of two entire years and portions of six others, his observations being supplemented by information contributed by a considerable number of other observers, as duly accredited in the list. The list is offered as a "purely preliminary" one, but forms a very substantial basis for future additions. The nomenclature is only in part brought down to the basis of A. O. U. Fourteenth Supplement, which possibly was not available at the time the list went to press.—J. J. A.

Bryan on the Birds of Molokai.²—This paper is the outcome of a collecting trip in the mountains of Molokai, Hawaiian Islands, during two months in 1907 (April 15–June 15), for the purpose of obtaining material for the Bishop Museum. One of the primary objects of the expedition was to secure specimens of the Hoa or Black Mamo (*Drepanorhamphus funereus*), the search for which proved successful, three specimens being obtained, although it has of late been supposed to be extinct. There is also a long

¹ An Annotated List of the Birds of Mesa County, Colorado. By Robert B. Rockwell. The Condor, Vol. X, No. 4, July–August, 1908, pp. 152–180, 2 maps, and 9 half-tone illustrations.

² Some Birds of Molokai. By Wm. Alanson Bryan, formerly Curator of Ornithology and Taxidermist in the Bishop Museum. Occas. Papers of the B. P. Bishop Museum, Vol. IV, No. 2, 1908, pp. 43–86, with a map and 7 half-tone full-page illustrations.

account of the rare *Astrelata sandwichensis*, known previously from one young and two adult specimens, of which Mr. Bryan found a colony and secured a large series of adults, of which measurements are given of eight males and twelve females. Although closely related to *Astrelata phaeopygia* of the Galapagos Islands, it proves to be somewhat smaller, with a slenderer bill and slightly different in color. Mr. Bryan's annotated list of 28 species contains many important notes on other rare species, and one — *Phaornis rutha* — is described as new.— J. A. A.

Annual Report of the National Association of Audubon Societies for 1908.¹

— The fourth annual report of the President, William Dutcher, occupies about fifty pages of the November-December number of 'Bird-Lore' for 1908, and contains the 'President's Address' (pp. 277-284), the Report of the Secretary' (pp. 284-287), 'Reports of Field Agents' (288-295), 'State Audubon Reports' (pp. 296-318), a List of the Officers and Members (pp. 319-325), and the Report of the Treasurer (pp. 326-329).

As stated by the President: "What this Association has accomplished during the few years of its existence speaks for itself, and it may be truly said, I think, that very few organizations of a mixed character, such as the National Association, which is partly philanthropic and esthetic, but mostly economic, have made such great strides in the estimation of the public, as well as in benefits conferred on the citizens of the country. When our work was started, there were few laws for the protection of wild birds and animals, especially those that are beneficial to agriculture and forestry; to-day this condition is entirely changed. Further, a sentiment for the protection of wild life could hardly be said to exist; to-day such a sentiment is widespread and is fast growing, owing to the educational work of the Audubon Societies through the press and by illustrated leaflets. What has been accomplished is a monument to the faithful and intelligent work of a few hundred people scattered throughout the country. To-day, I can point with pride to a strong and thoroughly equipped organization, virile and full of activity and promise for the future outcome of the work of the National and State Audubon Members."

The address then discusses plans of work for the future, and deals, first, with the subject of ways and means, in connection with the work to be accomplished. The income of the Association goes but a short way in meeting the legitimate demands upon it, and an appeal is made for its increase. Then are explained the educational measures employed, which include lectures, leaflets, and the public press. Also the legislative work, which is of the highest importance and entails a considerable outlay of funds, as when an important bill is under consideration, "a representative of the Association must be present at the hearing and speak for or against it." "In the matter of bird legislation, there is no resting-place; the only price of satisfactory bird protection is eternal watching of legislatures, for in an

¹ *Bird-Lore*, Vol. X, 1908, pp. 277-329, with several half-tone plates.

unguarded moment an amendment may be passed that will undo the work of years." And there are forty-four legislatures to watch!

Reservations, to be effective, must be patrolled by wardens, and whether the refuges are established by the Federal Government or are held under leases by the Association, the necessary wardens have to be supplied by the Association. Hence with the setting aside of each new reservation the responsibilities and expenses of the Association are proportionately increased. "How rapidly this work may be extended," says Mr. Dutcher, "depends entirely upon the public itself. If this appeal falls upon unwilling ears and hearts, our progress will be slow, but if, on the other hand, our plans and suggestions meet with the sympathy and support they deserve, progress will be very rapid." The Secretary's report states that "nine additional reservations have been formed during the past year by President Roosevelt upon the recommendation of President Dutcher"; and that, in all, "there are now twenty-three National Reservations under the care of this Association."

The reports of field agents include a report by Edward Howe Forbush for New England, and by William B. Finley for Oregon and the Northwest Coast region. Mr. Finley gives a detailed account of his and Mr. Bohlman's exploration of the bird life of the lakes of southern Oregon, which is not only important from the view point of bird protection but is of special interest as a sort of census of the water bird colonies of the extensive lakes and marshes of southern Oregon and northern California. Here the plume hunters have remained at work continually, killing thousands of Grebes and other birds. "It is," says Mr. Finley, "a difficult matter to stop shooting in such a vast area that is so profitable to the plume hunter, but we expect to succeed. There are at present six indictments against plume hunters filed in the District Attorney's office at Burns, for shooting Grebes on Malheur Lake." He adds: "To show how little observance has been given to the game laws in southeastern Oregon, it has been the custom for parties to go down to Malheur Lake in the fall when Swan, Snow Geese and other birds are migrating, and kill these birds merely for the feathers, which are sold at so much per pound."

Such facts indicate the necessity for a strong central organization of bird protectors, like the National Association, and how essential it is that greatly increased funds be made available for its work.—J. A. A.

Report of the Chief of the Bureau of Biological Survey for 1908.¹—Dr Merriam's report summarizes briefly the work of the Bureau of Biological Survey for the year ending June 30, 1908. This includes: "(1) Investigation of the economic relations of birds and mammals to agriculture; (2) investigations concerning the geographic distribution of animals and plants with reference to the determination of the life and crop belts of the country; (3) supervision of matters relating to game preservation and protection, and the importation of foreign birds and mammals." Among

¹ From Annual Reports of the U. S. Department of Agriculture, 1908. Pp. 22.

the many important topics recapitulated may be cited the relation of birds to the cotton boll weevil; California birds in relation to the fruit industry; food of wild ducks; food of woodpeckers; mosquito-eating birds; birds in relation to the codling moth; the economic relations of the Grosbeaks; spread of the English Sparrow in southern California; means of attracting birds; geographic distribution; game protection, etc. Respecting the latter we quote a single paragraph: "Difficult problems attach also to the task of preserving the non-game birds of the country. Capture of native birds for millinery purposes and for the cage-bird market is under fairly good control; but questions that press constantly for settlement arise through absorption of breeding haunts to meet the needs of spreading civilization, the great increase in the number of persons who shoot birds, and other agencies of depletion resulting from changed conditions." The measures taken to meet these problems are briefly recounted, as well as those to prevent the importation of undesirable birds and mammals. An attempt is now being made to prevent the spread of the English Sparrow into southern California; also to ascertain the present distribution of the Starling in this country, with a view "to devise means to check further increase of its range and to eradicate the pest, as far as possible, in the territory now occupied." It is of interest to here further note that "During the year the office of Geographic Distribution has made considerable advance in mapping the distribution of American birds and mammals, and in getting its accumulated data into shape for convenient reference and use." Meanwhile the gathering of such information on a broad scale continues, while reports on sections already surveyed are being prepared for publication.—J. A. A.

Mrs. Bailey's 'Handbook of Birds of the Western United States.'¹ — The third edition of Mrs. Bailey's 'Handbook' differs from the former editions through the correction of the additional errors discovered, the substitution of many drawings of bird-skins in place of photographs, and a revision of the text under the genus *Astragalinus* to bring it into accord with the rulings of the A. O. U. Committee on Nomenclature. The work is thus not materially changed, this new edition being issued to meet the continued demand for this excellent handbook.—J. A. A.

Richmond's List of Generic Terms proposed for Birds during 1901-1905.²

¹ Handbook of Birds | of the | Western United States | including | the Great Plains, Great Basin, Pacific Slope, and | Lower Rio Grande Valley | By | Florence Merriam Bailey | With thirty-three full-page plates by | Louis Agassiz Fuertes, and over six hundred cuts in the text | Third edition, revised | [Emblem] Boston and New York | Houghton Mifflin Company | The Riverside Press Cambridge.—12mo., pp. xc + 514. \$3.50, net; postpaid, \$3.69.

² Generic Names applied to Birds during the years 1901 to 1905, inclusive, with further Additions to Waterhouse's "Index Generum Avium." By Charles W. Richmond, Assistant Curator, Division of Birds, U. S. National Museum. Proc. U. S. Nat. Mus., Vol. XXXV, pp. 583-655. Published Dec. 16, 1908.

This is a continuation of Dr. Richmond's 'List of Generic Terms proposed for Birds' published in 1902,¹ and includes, besides new names, many heretofore generally overlooked. The new names here recorded for this five-year period number about 200, "with about 350 others of earlier date, the majority of which are not recorded by Waterhouse" in his 'Index Generum Avium,' published in 1889. Of these 350 names, more than one third, or about 125, are marked with an asterisk to indicate that they are *nomina nuda* or else of "undecided status," or "names about the status of which there may be differences of opinion"; such as, for example where the name rests solely on a diagnosis, or on a drawing of structural details (like some of Reichenbach's), or on a vernacular name. This category includes a large part of Billberg's 50 new names (published in 1828), most of Brookes's 40 (published also in 1828), and most of the names (about 50) of Morris, C. T. and N. Wood, and S. D. W. (dating from 1837). It is a pity such worthless lumber could not have remained in oblivion. On the other hand, many of the old names here listed have sufficient basis and are entitled to the recognition required by the law of priority.

As in Dr. Richmond's previous 'List of Generic Terms,' the subject is well handled and the references and results are clearly and satisfactorily presented, the 'List' forming a most valuable supplement to previous indexes to the generic names of birds. The numerous footnotes add valuable comment on many intricate points, and include several changes of names, including names of species as well as of genera. Thus *Aaptus* Richmond, 1902 (= *Aphobus* Cabanis, 1851, preoccupied) is found to be preoccupied and is accordingly changed to *Gnorimopsar*. *Accentor* Bechstein, 1802, becomes *Laïscopus* Gloger, 1842. *Amandava* Blyth, 1836, has priority over *Sporæginthus* Cabanis, 1850. *Passerherbulus* Maynard, 1895, has priority over *Ammospiza* Oberholser, 1905. *Carpophagus* Selby, 1835, being preoccupied, gives way to *Muscadivores* Gray, 1855. *Conoponderas* Billberg, 1828, has priority over *Tatare* Lesson, 1831. *Halohippus* Billberg, 1828, has priority over *Rhantistes* Kaup, 1829, both being monotypic with the same type (*Procellaria glacialis* Linn.). *Pogonornis* Gray, 1846, being preoccupied by *Pogonornis* Billberg, 1828, is here renamed *Notiomystis* Richmond. *Tanagra* Linnaeus, dating from 1764 (instead of 1766 as usually cited), has the type here first designated, as follows: "So far as I know the type of *Tanagra* at 1764 is yet to be fixed, and as 'first reviser,' under the rules of the new International Code, I will select *Fringilla violacea* Linnaeus, 1758, as the type. This . . . will permit us to use *Tangaridae* for the family, *Tanagra* Brisson, for the Callistes, *Euphonia* Desmarest (*Tanagra* Linnaeus, 1764, preoccupied [antedated] by *Tanagra* Brisson) for the *Euphonias*, and *Thraupis* Boie, for the 'true' Tanagers. Those who reject Brisson's names may use *Tanagridæ*, *Calospiza*, *Tanagra*, and *Thraupis* for the same groups." This comes about from the fact that *Tanagra* of Linnaeus in 1764 (Mus. Adolphi Friderici) contained only three

¹ See Auk, XIX, July, 1902, p. 307.

pecies, only one of which was as a member of the family of Tanagers, the others being Icterines — one a *Leistes*, the other a *Cassicus*, while the third (and last) is a *Euphonia*. — J. A. A.

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NOTES AND NEWS.

DR. ROBERT MORRIS GIBBS, well known as a Michigan naturalist and ornithologist, died of paralysis at his home in Kalamazoo, September 18, 1908, at the age of 52. His name is familiar to most of the older bird men, as he was an occasional contributor to 'Forest and Stream,' the 'American Field,' the 'Ornithologist and Oölogist,' the 'Oölogist,' and the 'Nidiologist' (later the 'Nidologist'), a word originally coined by Dr. Gibbs. His first work of importance was an Annotated List of Michigan Birds, published in Bull. U. S. Geogr. and Geol. Survey of the Territories, Vol. V, No. 3, 1879. He collected a large part of the material for Professor Cook's 'Birds of Michigan,' published by the Michigan Agricultural College in 1893, but the final draft of this bulletin was made entirely by others.

About twenty years ago Dr. Gibbs suffered a stroke of paralysis which

crippled him so completely that during the remainder of his life he was confined to a wheel chair and able to accomplish but very little field work, although he used his pen pretty steadily until the last. Ornithologists are indebted to him for many valuable field notes and critical observations, as well as for his lists of Michigan birds. He also published one or more lists of Michigan reptiles, and did some work on the mammals of the State during his later years. His collections of birds and mammals were purchased many years ago by the Michigan Agricultural College and the University of Michigan.—W. B. B.

THE Fourth Annual Meeting of the National Association of Audubon Societies was held at the American Museum of Natural History, New York City, October 27, 1908. To facilitate the work of the Association several changes were made in the By-Laws, reducing the number of Directors from thirty to eleven, and making six instead of five a quorum. In addition to the Board of Directors, an Advisory Board was established, "consisting of not less than ten nor more than thirty members," to which the Board of Directors may submit any matter for advice. With a large and widely scattered Board of Directors it has been found impossible to secure a satisfactory attendance at meetings; a smaller Board, with a more concentrated residence, seemed to promise greater efficiency in the transaction of business. The following officers were elected for the ensuing year: President, William Dutcher; First Vice-President, Dr. T. S. Palmer; Second Vice-President, Dr. J. A. Allen; Secretary, T. Gilbert Pearson; Treasurer, Dr. Jonathan Dwight, Jr. Upon invitation of Mr. Gifford Pinchot, the following Committee was appointed to coöperate with the National Conservation Commission: Edward Howe Forbush (Chairman), Dr. T. S. Palmer, Frank M. Chapman, T. Gilbert Pearson, William Dutcher. Following the reports of the President, Secretary and Treasurer, an illustrated address was given by Mr. William L. Finley on the work of the plume hunter in Oregon. The work of the Association for the year 1908, as detailed in the report of the President, has already been noticed (*antea*, p. 100).

AN IMPORTANT decision has recently been made by the Supreme Court of the United States respecting the sale in this country of imported game. The decision is that of the Silz Case, which was begun in the courts of Kings County (Brooklyn), New York, in April, 1905. The history of this case is given in full by Dr. T. S. Palmer in 'Circular No. 67' of the Bureau of Biological Survey, issued December 9, 1908, on which the following details are based. "On April 6, 1905, John Hill, proprietor of the Clarendon Hotel in Brooklyn, was arrested for having in possession in close season 24 brace of English Plover and Russian Grouse. These birds had been purchased from August Silz, one of the largest importers of foreign game in New York City, Silz at once became a party to the case and on the next day was arrested by Henry Hesterberg, the sheriff of the county,

for having in possession on March 30, 1905, in Kings County, N. Y., one Golden Plover and one Blackcock from Russia. . . . This game was said to have been captured in the open season, purchased in London, and imported into the United States in accordance with the tariff law and regulations." On April 7, Silz obtained a writ of habeas corpus from the supreme court in Brooklyn, and on June 16 the writ was quashed and the relator was remanded to the custody of the sheriff. He appealed the case, and the appeal was sustained by the appellate division of the supreme court. On February 26, 1907, the court of appeals reversed this decision, and Silz was again remanded to the custody of the sheriff of Kings County. On July 27, the final order quashing and dismissing the writ of habeas corpus was issued. In 1907 the case was appealed to the Supreme Court of the United States on writ of error. The case was argued October 15, 1908, and the final decision was rendered on November 2, 1908, affirming the judgment of the court of appeals of New York. The opinion of the court was rendered by Mr. Justice Day.

Dr. Palmer cites the opinion in full, and further gives a history of the question of the right of a State to regulate possession and sale of game taken outside its boundaries. He also comments on the importance of the decision in its relation to game protection in the United States, stating: "The present decision in the Silz case disposes of the question whether a State has the right to regulate possession and sale of game taken outside its boundaries — a question which has been before the State courts in one phase or another for more than thirty-five years, and which is here presented in an extreme form, namely, regulation of the sale of game imported from foreign countries." This decision also, he further states, "directly affects dealers in game, importers, and many persons engaged in the millinery trade, and is also of unusual interest to sportsmen and friends of game protection."

Evidently if a State can regulate the importation and sale of game, it can also regulate, or prohibit, the importation and sale of foreign birds for millinery purposes, and thus aid in checking the immense slaughter of birds in foreign countries for such use.

DR. RUDOLPH M. ANDERSON, formerly of Blees Military Academy, Macon, Mo., is now engaged in zoölogical exploration in Arctic America, in the interest of the American Museum of Natural History. The expedition, in charge of Mr. Vilhjalmr Stefánsson, left New York in April, 1908, reaching the Great Slave Lake region in June, and later descended the Mackenzie River to the Arctic coast, where the explorers will pass the winter. The expedition is expected to occupy two years, Mr. Stefánsson giving special attention to the anthropology and Dr. Anderson to the zoölogy of portions of Arctic America thus far practically unexplored. The first shipment of specimens reached the Museum in October, and though not large, contained a number of birds and mammals of much interest, including the nest of the Bohemian Waxwing described in the present number of this journal (see pp. 10-12) by Dr. Anderson.

DR. D. G. ELLIOT has recently returned to New York from a prolonged trip around the world, during which considerable time was spent in India, China, Japan, and Hawaii. Dr. Elliot is engaged in the preparation of a monograph of the Primates, a group of mammals at present in greatest need of thorough revision, and his visit to Europe was for the purpose of studying the material in foreign museums, including especially the types of previous authors.

MAJOR EDGAR A. MEARNs, Medical Corps, U. S. Army, who has twice in recent years been detailed to service in the Philippines, has recently been placed on the retired list with the rank of Lieutenant Colonel. President Roosevelt having invited him to accompany him on his hunting trip to Africa in April next, Dr. Mearns's field of experience as a naturalist will be further widened by a year's work in the interior of Africa, where he will have the good wishes of all his fellow members of the A. O. U.

ARRANGEMENTS have been made for the celebration of the one hundredth anniversary of the birth of Charles Darwin by the New York Academy of Sciences on February 12 next at the American Museum of Natural History. The memorial exercises will include the presentation to the Museum of a bust of Darwin, the presentation to be made by Charles F. Cox, President of the Academy, and the acceptance will be by Henry F. Osborn, President of the Museum. Other addresses will be on 'Darwin's work in Botany,' by Professor N. L. Britton; 'Darwin's work in Zoölogy,' by Professor H. C. Bumpus; 'Darwin's work in Geology,' by Professor J. J. Stevenson.

A PROMINENT feature of 'Bird-Lore' for the last five years has been the series of colored plates of North American birds. The first series of twenty-four was devoted to the Wood Warblers (*Mniotiltidae*), and was reissued later, with appropriate text, as 'The Warblers of North America.' The Warbler plates were followed by colored plates of the Thrushes, and these by colored plates of the Flycatchers. The Flycatcher series will be completed in the next issue (Jan.-Feb., 1909) of the magazine, and will be followed by colored plates of the Vireos, to be completed in 1909. It is now announced that the Vireo series will be followed by plates of the Sparrows, which, we are sure, will also meet with a hearty welcome on the part of 'Bird-Lore' readers, and later serve as the basis of other such admirable monographs as the now well-known 'Warbler Book.'

THE prospectus of a new illustrated monthly magazine, to be known as 'Travel and Exploration,' has recently been issued by Witherby and Company, London. The magazine will be devoted to illustrated articles dealing with travel in all its aspects, of which a prominent feature will be the personal narratives of explorers of wild and little known regions, including Polar expeditions, both North and South, as well as other out of the way regions. The list of contributors presented includes the names of several widely known explorers. The first number is announced to appear January 1, 1909.